

// PUPILS' PERFORMANCE AND ATTITUDES TOWARDS
ART AND CRAFT IN KENYA'S 8-4-4 EDUCATION
SYSTEM IN EMBU DISTRICT //

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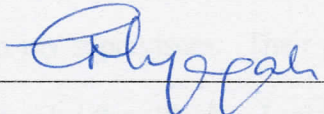
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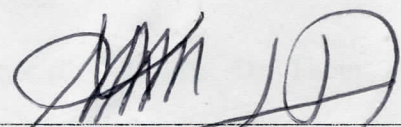


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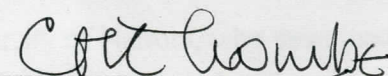


Prof. STEPHEN N. MUTUNGA
 Associate Research Professor
 Basic Education Resource Centre
 Kenyatta University



 Dr. GERALD NGUGI KIMANI

Senior Lecturer and Chairman
 Department of Educational Administration and Planning
 University of Nairobi



Dr. CATHERINE GOMBE
 Senior Lecturer and Head of Department
 Department of Art and Design
 Institute of Teacher Education, Kyambogo,
 Kampala, Uganda.

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TABLE OF CONTENTS

CONTENT	PAGE
Title Page.....	(i)
Declaration.....	(ii)
Acknowledgements.....	(iii)
D E D I C A T I O N	
Dedication.....	(iv)
Table of Contents.....	(v)
List of Tables.....	(xv)
List of Figures.....	(xvi)
Abbreviations.....	(xxi)
Abstract.....	(xxvii)
CHAPTER ONE	
1.0 INTRODUCTION	1
1.1 Background to the Problem.....	1
1.2 Statement of the Problem.....	14
1.3 Purpose of the Study.....	15
1.4 Hypotheses.....	16
1.5 Significance of the Study.....	18
1.6 Delimitations of the Study.....	19
1.7 Limitations of the Study.....	21
1.8 Assumptions underlying the Study.....	22
1.9 Definitions of Terms used in this Study.....	23
1.10 Summary of the Chapter and Outline of succeeding Chapters.....	24

TABLE OF CONTENTS

CONTENT	PAGE
Title Page.....	(i)
Declaration.....	(ii)
Acknowledgements.....	(iii)
Dedication.....	(v)
Table of Contents.....	(vi)
List of Tables.....	(xv)
List of Figures.....	(xx)
Abbreviations	(xxi)
Abstract.....	(xxiii)
 CHAPTER ONE	
1.0 INTRODUCTION	1
1.1 Background to the Problem.....	1
1.2 Statement of the Problem.....	14
1.3 Purpose of the Study.....	15
1.4 Hypotheses.....	16
1.5 Significance of the Study.....	18
1.6 Delimitations of the Study.....	19
1.7 Limitations of the Study.....	21
1.8 Assumptions underlying the Study.....	22
1.9 Definitions of Terms used in this Study.....	23
1.10 Summary of the Chapter and Outline of Succeeding Chapters.....	25

CHAPTER TWO

2.0 LITERATURE REVIEW.....	27
2.1 Introduction.....	27
2.2 Meaning of Prevocational Education.....	27
2.3 Traditional African Arts and Crafts.....	29
2.3.1 Types of African Art.....	30
2.3.2 Methodology used for Transmitting Arts and Crafts Knowledge and Skills.....	31
2.3.3 Embu Traditional Arts and Crafts.....	31
2.3.4 Gender and Age Differentiation in Art and Crafts Activities.....	32
2.3.5 Materials used for Arts and Crafts.....	32
2.3.6 Mode of Training for Arts and Crafts Skills.....	33
2.4 Practical Education Programmes and Related Research.....	34
2.5 Research Findings on Performance.....	40
2.6 Pupils' Attitudes towards Practical Subjects in General and Art and Craft in Particular.....	47
2.7 Conceptual Framework.....	53
2.7.1 The Concept of Attitudes.....	53
2.7.2 Performance.....	56
2.8 Summary of Literature Review.....	62

CHAPTER THREE

3.0 RESEARCH METHODOLOGY.....	65
3.1 Introduction.....	65
3.2 Rationale for the Area of Study.....	65
3.3 Research Design.....	69
3.4 Target Population.....	69
3.5 Sample Size and Sampling Procedure.....	70
3.6 Data Sources.....	79
3.7 Research Instruments.....	79
3.7 (a) Assessment Schedules	79
3.7 (b) Questionnaires	81
3.7 (b) (i) Pupils' Questionnaire.....	81
3.7 (b) (ii) Teachers' Questionnaire.....	82
3.7 (c) Attitude Scale.....	82
3.7 (d) Observation Schedule.....	83
3.8 Pre-testing of the Questionnaires and Attitude Scale.....	84
3.9 Validity and Reliability of the Research Instruments.....	85
3.9 (a) Questionnaires.....	85
3.9 (a) (i) Pupils' Questionnaires.....	85
3.9 (a) (ii) Teachers Questionnaires.....	86
3.9 (b) Attitude Scale.....	86
3.9 (c) Assessement Schedules.....	89
3.10 Operationalization of the Variables in the Study.....	89
3.10.1 Pupils' Performance in Art and Craft.....	90

3.10.2 Practical Assessment	91
3.10.3 Attitudes	92
3.10.4 Extent to which Schools were Equipped.....	93
3.11 Data Collection.....	<u>96</u>
3.12 Data Analysis.....	98
3.13 Summary of Methodology.....	102
CHAPTER FOUR	
4.0 FINDINGS OF THE STUDY.....	104
4.1 Introduction.....	104
4.2 General Information on the Pupils.....	104
4.2.1 Age and Gender.....	104
4.2.2 Sample of Pupils from Different School Settings.....	105
4.2.3 Parents' Occupations.....	<u>105</u>
4.2.3 (i) Fathers' Occupations.....	107
4.2.3 (ii) Mothers' Occupations.....	109
4.3 Teachers' Demographic and Other General Information from the Questionnaires.....	109
4.3.1 Sex and Age of the Teachers.....	110
4.3.2 Marital Status.....	112
4.3.3 Academic and Professional Qualifications.....	112
4.3.4 Teaching Experience.....	115
4.4 Findings on Pupils' Performance in Art and Craft.....	115
4.4.1 Overall Performance in Art and Craft.....	117
4.4.2 Differences between CWA and TE Sets of Scores.....	119

4.4.2.1 Genuineness of the Pupils Practical Projects.....	124
4.4.3 Pupils' Performance in Art and Craft in Relation to Status of Facilities in Schools.....	129
4.4.3.1 Performance in the Theory Component versus the Extent to which Schools were Equipped.....	133
4.4.3.2 Practical Performance versus the Extent to which Schools were Equipped.....	133
4.4.4 Pupils' Performance in Art and Craft in Relation to Rural and Urban School Environments.....	140
4.4.5 Performance in Art and Craft for Pupils in Day Schools compared to that of Pupils in Boarding Schools.....	143
4.4.6 Pupils' Performance in Art and Craft in Relation to Gender.....	146
4.4.7 Pupils' Performance in Art and Craft in Relation to Parental Occupations.....	151
4.5 Findings on Pupils' Attitudes towards Art and Craft.....	163
4.5.1 Pupils' Attitudes towards Art and Craft with Respect to Rural-Urban School Settings.....	167
4.5.2 Pupils' Attitudes towards Art and Craft with Respect to Day-Boarding School Settings.....	168
4.5.3 Pupils' Attitudes towards Art and Craft in Relation to Gender.....	170
4.5.4 Pupils' Attitudes towards Art and Craft in Relation to Parental Occupations.....	171

4.6	Teachers' Preparedness to Teach Art and Craft.....	177
4.6.1	Study of Art and Craft and related Courses in School and College.....	177
4.6.2	In-Service Courses/Seminars/Workshops attended towards Art and Craft Teaching.....	189
4.6.3	Discussion on Teachers' Preparedness to teach Art and Craft.....	191
4.7	Problems of Teaching and Learning Art and Craft in Schools.....	195
4.7.1	Problems of Teaching and Learning Art and Craft as Identified by the Pupils.....	196
4.7.2	Problems of Teaching and Learning Art and Craft from the Teachers' Perspective.....	198
4.7.3	Content Analysis of the Art and Craft Syllabus for the 8-4-4 Education System.....	205
4.7.4	Remedies Taken by Teachers in dealing with Inadequate Facilities.....	214
4.8	Suggestions for Improving the Teaching and Learning of Art and Craft.....	216
4.9	Summary of Research Findings.....	219

CHAPTER FIVE

5.0	SUMMARY, CONCLUSIONS AND RECOMMENDATIONS.....	222
5.1	Introduction.....	222

5.2	Summary.....	222
5.2.1	Findings on Pupils' Performance in Art and Craft.....	225
5.2.1.1	Pupils' Performance in Relation to Adequacy of Facilities.....	225
5.2.1.2	Pupils' Art and Craft Performance with Respect to Rural-Urban School Settings.....	226
5.2.1.3	Pupils' Art and Craft Performance in Relation to Day versus Boarding School Pupils.....	227
5.2.1.4	Pupils' Art and Craft Performance with Respect to Gender.....	227
5.2.1.5	Pupils' Art and Craft Performance in Relation to Parental Occupations.....	228
5.2.2	Findings on Pupils' Attitudes towards Art and Craft.....	228
5.2.2.1	Pupils' Attitudes towards Art and Craft in Relation to Rural-Urban School Settings.....	229
5.2.2.2	Comparison of Attitudes towards Art and Craft for the Day and Boarding School Pupils.....	230
5.2.2.3	Pupils' Attitudes towards Art and Craft in Relation to Gender.....	230
5.2.2.4	Pupils' Attitudes towards Art and Craft with Respect to Parental Occupations.....	231
5.2.3	Problems of Teaching and Learning Art and Craft.....	231
5.3	Conclusions.....	233
5.3.1	Conclusions on Pupils' Performance in Art and Craft.....	233

5.3.2	Conclusions on Pupils' Attitudes towards Art and Craft...	236
5.4	Recommendations.....	237
5.5	Recommendations for Further Research.....	240
	BIBLIOGRAPHY.....	242

APPENDICES

Appendix A:	Objectives of Primary Education in Kenya.....	255
Appendix B:	General and Specific Objectives for Art and Craft.....	257
Appendix C:	Table for Determining Sample Size from a Given Population.....	259
Appendix D:	Questionnaire for Pupils.....	260
Appendix E:	Questionnaire for Teachers of Art and Craft.....	267
Appendix F:	Assessment Schedule for Practical Skills in Art and Craft.....	278
Appendix G:	A Copy of the 1991 KCPE Art and Craft Examination.....	285
Appendix H:	Observation schedule for Art and Craft Facilities in Schools.....	291
Appendix I:	Categorization of Sample School with Respect to Adequacy of Equipment & Tools for Art and Craft..	292
Appendix J:	Categorization of Sample Schools with Respect to Day vs Boarding and Rural vs Urban Schools Settings.....	293
Appendix K:	List of the Required Equipment, Tools and Materials	

in Schools: Minimum Requirement for a Class of

Forty Pupils..... 294

Appendix L: Summary of Topics in the Art and

Craft Syllabus..... 300

Table 1.1	Percentage of Std. 8 Pupils admitted into Form 1, from one year to the next, 1985 - 1995.....	6
Table 1.2	Primary Education Curriculum: 1985 - May 1992, Subject Time Allocation.....	9
Table 1.3	Primary Education Curriculum: May 1992 - Present, Subject - Time Allocation.....	12
Table 1.4	Mean Scores for the Various KCPE Subjects between 1981 and 1991.....	13
Table 2.1	The Sample of Pupils by School Type and Gender.....	76
Table 2.2	The Sample of Teachers by School Type.....	78
Table 3.1	Age and Gender Distribution of the Pupils.....	106
Table 3.2	Occupations of the Pupils' Fathers.....	108
Table 3.3	Age Distribution for the Teachers by Sex.....	111
Table 3.4	Academic Status of the Teachers.....	113
Table 3.5	Professional Status of the Teachers.....	114
Table 3.6	Length of Time in Teaching and Handling Art and Craft.....	116
Table 4.1	Summary of Pupils' Performance for the Three Categories of Scores: Theory, TE and CWA.....	118

LIST OF TABLES

TABLE		PAGE
Table 1.1	Growth of Pupils' Enrolment in Primary Schools, 1963 - 1995.....	3
Table 1.2	Percentage of Std. 8 Pupils admitted into Form 1, from one year to the next, 1985 - 1995.....	6
Table 1.3	Primary Education Curriculum: 1985 - May 1992, Subject Time Allocation.....	9
Table 1.4	Primary Education Curriculum: May 1992 - Present: Subject - Time Allocation.....	11
Table 1.5	Mean Scores for the various KCPE Subjects between 1981 and 1991.....	13
Table 3.1	The Sample of Pupils by School Type and Gender.....	76
Table 3.2	The Sample of Teachers by School Type.....	78
Table 4.1	Age and Gender Distribution of the Pupils.....	106
Table 4.2	Occupations of the Pupils' Fathers.....	108
Table 4.3	Age Distribution for the Teachers by Sex.....	111
Table 4.4	Academic Status of the Teachers.....	113
Table 4.5	Professional Status of the Teachers.....	114
Table 4.6	Length of Time in Teaching and Handling Art and Craft.....	116
Table 4.7	Summary of Pupils' Performance for the Three Categories of Scores: Theory, TE and CWA.....	118

Table 4.8	Summary of the Theory, TE and CWA Categorized Scores, and Percentage of Pupils in Each Performance Category.....	120
Table 4.9	Comparison of TE and CWA Scores.....	121
Table 4.10	Teachers' Opinions on Percentage of Practical Projects Actually Done by the Pupils.....	124
Table 4.11	Teachers' Reasons for Suspecting the Genuineness of Some of the Pupils' Work.....	125
Table 4.12	Teachers' Opinions on Sources of Help for Pupils in Art and Craft Projects.....	128
Table 4.13	Categorization of Schools with Regard to Facilities.....	130
Table 4.14	Relationship between Theory Art and Craft Performance and Status of Facilities in Schools.....	134
Table 4.15	Relationship between Pupils' Practical Performance and Status of Facilities in Schools.....	136
Table 4.16	Comparison of Pupils' Art and Craft Performance in Rural versus Urban School Settings.....	141
Table 4.17	Comparison of Pupils' Art and Craft Performance in Day versus Boarding Schools.....	144
Table 4.18	Differences in Art and Craft Performance between Boys and Girls.....	147
Table 4.19	Relationship between Pupils' Theory Performance in Art and Craft and Fathers' Occupations.....	153

Table 4.20	Relationship between Pupils' Practical Performance in Art and Craft and Fathers' Occupation.....	154
Table 4.21	Comparison of Pupils' Mean Art and Craft Theory Scores for Various Fathers' Occupations.....	155
Table 4.22	Comparison of Pupils' Mean Art and Craft Practical Scores for Various Fathers' Occupations.....	156
Table 4.23	Relationship between Pupils' Theory Performance in Art and Craft and Mothers' Occupations.....	158
Table 4.24	Relationship between Pupils' Practical Performance in Art and Craft and Mothers' Occupations.....	159
Table 4.25	Comparison of Pupils' Mean Art and Craft Theory Scores for Various Mothers' Occupations.....	160
Table 4.26	Comparison of Pupils' Mean Art and Craft Practical Scores for Various Mothers' Occupations.....	161
Table 4.27	Results of the Attitude Test towards Art and Craft for Pupils	165
Table 4.28	Relationship between Pupils' Attitudes towards Art and Craft and Fathers' Occupations.....	172
Table 4.29	Comparison of Mean Attitude Scores for Pupils with Fathers of Different Occupations.....	173
Table 4.30	Relationship between Pupils' Attitudes towards Art and Craft and Mothers' Occupations.....	175
Table 4.31	Comparison of Mean Attitude Scores for Pupils with Mothers of Different Occupations.....	176

Table 4.32	Practical Art and Craft related Courses taken by Teachers at Primary School Level.....	179
Table 4.33	Time taken by Teachers for Carpentry, Leather-work and Building Construction at Primary School Level.....	180
Table 4.34	Time taken by Teachers for Basketry/Weaving, Painting, Sculpture/Pottery and Graphic Design in Primary Schools.....	181
Table 4.35	Technical Courses taken by Teachers at High School.....	183
Table 4.36	Time taken in Technical Courses at High School by Art and Craft Teachers.....	185
Table 4.37	Summary of Reasons given for Inadequacy of Training for the Teaching of Art and Craft.....	188
Table 4.38	Number of Times Teachers Attended In-Service Courses, Seminars or Workshops in Art and Craft.....	190
Table 4.39	Problems of Art and Craft as Identified by the Pupils.....	197
Table 4.40	Problems affecting the Teaching and Learning of Art and Craft as Reported by the Teachers.....	199
Table 4.41	Pupils' Reasons for Wanting to Repeat KCPE.....	204
Table 4.42	Comparison of Art and Craft Topics for the 8-4-4 and the 7-4-2-3 Education Systems for Upper Primary Classes (Std IV-VII/VIII).....	211

Table 4.43	Number of Periods per Week for Art and Craft Teaching..	212
Table 4.44	Remedies Utilized by Teachers in Cases of Inadequate Art and Craft Equipment, Tools and Materials.....	215
Table 4.45	Teachers' Suggestions for Improving the Teaching and Learning of Art and Craft.....	217
Figure 2.2	Performance in Art and Craft in Relation to School and Pupils' Characteristics and Socio-economic Factors	59
Figure 3.1	Location of Embu District in the Map of Kenya	66
Figure 3.2	Embu District Administrative Boundaries.....	68

LIST OF FIGURES

FIGURE		PAGE
Figure 2.1	Conceptual Analysis of Attitudes as used in this Study.....	55
Figure 2.2	Performance in Art and Craft in Relation to School and Pupils' Characteristics and Socio-economic Factors.....	59
Figure 3.1	Location of Embu District in the Map of Kenya.....	66
Figure 3.2	Embu District Administrative Boundaries.....	68

ABBREVIATIONS

A-Level	-	Advanced secondary level
AGR	-	Agriculture
A & C	-	Art and Craft or Arts and Crafts
CPE	-	Certificate of Primary Education
CWA	-	Continuous Work Assessment
ERNIKE	-	Educational Research Network in Kenya
GHC	-	Geography, History and Civics
H/S	-	Home Science
IDS	-	Institute for Development Studies, University of Nairobi
ILO	-	International Labour Organization/Office
KACE	-	Kenya Advanced Certificate of Education
KCE	-	Kenya Certificate of Education
KCPE	-	Kenya Certificate of Primary Education
KIE	-	Kenya Institute of Education
KJSE	-	Kenya Junior Secondary Education
KNEC	-	Kenya National Examinations Council
KPE	-	Kenya Preliminary Examination
MOE	-	Ministry of Education
MPND	-	Ministry of Planning and National Development (Kenya)
NCE	-	National Commission of Education (Botswana)
NCEOP	-	National Committee on Educational Objectives and Policies
O-Level	-	Ordinary secondary level

ABSTRACT

PGDE	-	Post Graduate Diploma in Education
REL	-	Religious Education
SCI	-	Science
Std	-	Standard
TE	-	Technical Experts
TTC	-	Teacher Training College
UNESCO	-	United Nations Educational Scientific and Cultural Organization
PI	-	Primary Teacher I
P2	-	Primary Teacher 2
P3	-	Primary Teacher 3
SI	-	Secondary Teacher I
UT	-	Untrained Teacher

Several factors were identified from the literature reviewed as having considerable influence on performance and attitudes towards Art and Craft. For the study, the following factors were selected for investigation: the extent to which schools were equipped to offer Art and Craft; the type of school, that is, whether boarding or day, rural or urban; pupils' gender and parental occupations. The study therefore investigates performance and attitudes in relationship to the selected variables.

A sample of 408 pupils and 62 teachers was utilized in the study. This sample was selected through a two-stage stratified probability sampling. The research instruments used were: pupils' and teachers' questionnaires, an attitude index and an observation schedule for the facilities in the schools, and an assessment

ABSTRACT

This study investigates pupils' performance in the Art and Craft subject and pupils' attitudes towards the subject in the 8-4-4 education system in Embu District, Kenya. The study seeks to establish if a relationship exists between pupils' performance in Art and Craft and various variables: the extent to which schools were equipped to offer Art and Craft, the type of school; urban or rural; boarding or day, pupils' gender and parental occupations. The study also investigates if there is a significant difference between pupils' attitudes towards Art and Craft for different school settings and gender. It also seeks to establish if a relationship exists between pupils' attitudes and parental occupations. In addition, the study identifies the main problems affecting the teaching and learning of Art and Craft in schools.

Several factors were identified from the literature reviewed as having considerable influence on performance and attitudes towards Art and Craft. For this study, the following factors were selected for investigation: the extent to which schools were equipped to offer Art and Craft; the type of school, that is, whether boarding or day, rural or urban; pupils' gender and parental occupations. The study therefore investigates performance and attitudes in relationship to the selected variables.

A sample of 408 pupils and 62 teachers was utilized in the study. This sample was selected through a two-stage stratified probability sampling. The research instruments used were: pupils' and teachers' questionnaires, an attitude scale, an observation schedule for the facilities in the schools, and an assessment

schedule for the pupils' practical projects. Descriptive and inferential statistics were used for analysis of the data obtained. In particular, the chi-square and the t-test were used to test the various hypotheses, at the 0.05 level of significance.

The first major finding was that there was only a weak relationship between pupils' performance in Art and Craft and adequacy of facilities in schools. Additionally, the majority of the schools involved in the study (85 percent) had inadequate or no facilities at all, while the facilities in the well equipped schools were often highly underutilized. Secondly, a significant difference was found between the performance of pupils in urban schools and those in rural schools. For the theory performance, pupils from urban schools outperformed those from rural schools, and vice versa for the practical component. The study also found a significant difference between the performance of pupils from boarding schools and those from day schools where the former outperformed the latter in both the theory and the practical components of the subject.

While the gender factor was found to be insignificant with regard to the theory performance, the boys outperformed the girls in the practical performance. A further finding is that parental occupations had no significant effect on pupils' Art and Craft performance.

On the whole, pupils' attitudes towards Art and Craft were found to be positive. In addition, the study found no significant difference in attitudes towards Art and Craft between: pupils from rural and urban school settings, boys and girls, and pupils with parents of different occupations. However, a significant difference was found between the attitudes of day and boarding pupils; the day pupils displayed more positive attitudes towards Art and Craft than the boarding pupils.

The main problems identified that affected the teaching and learning of Art and Craft are: lack of facilities in schools, including text books, inadequate preparedness of teachers with regard to the teaching of Art and Craft, and "too much school work" as a result of a loaded curriculum.

The following recommendations were made, based on the findings of the study:

1. Given that good performance in Art and Craft was found to be dependent on adequacy of facilities to some extent, and that equipping schools with adequate facilities may not be a realizable goal in the near future, it is recommended that improvisation be enhanced in schools.
2. It is also recommended that supervision and inspection of schools be intensified so that schools with Art and Craft facilities actually make use of them, while those without facilities intensify improvisation.
3. It is recommended that special training programmes be designed for Art and Craft teachers, preferably for people who already have practical skills in arts and crafts, especially from technical institutions.
4. To ensure that there is adequate time available for studying Art and Craft effectively, it is recommended that the overall workload for the primary school pupils be reduced. This can be done through providing choice of subjects at the upper primary level. The reduced workload would facilitate more practical work and hopefully improve performance.
5. To improve performance of the day scholars in comparison with the boarding pupils, it is recommended that Ministry of Education should find

ways of sensitizing parents of day scholars on the need to provide their children with more study time at home.

6. Teachers, assisted by the Ministry of Education should make efforts to maintain the positive attitudes held by the majority of the pupils towards the Art and Craft subject for the majority of the pupils, and to change the negative attitudes held by, according to this study, the minority.
7. To enhance pupils' and teachers' interest in the Art and Craft subject, it is recommended that more Art and Craft activities be organized and be made accessible to pupils. In addition, visits to *Jua kali* sheds would be useful by making the subject more practical and interesting.

CHAPTER ONE

1.0

INTRODUCTION

1.1 Background to the Problem

One of the main aims of education is to provide a foundation for social and economic development of society (Callaway, 1971, Fagerlind and Saha, 1983).

Another frequently cited aim of education is the preparation of youth for adult roles in a way that will enable them to participate effectively in social and economic development (Fagerlind and Saha, 1983). In an attempt to provide appropriate and relevant education towards achieving those aims, many countries have, at one time or another, tried out diversified education programmes which combine both the traditional academic subjects such as English, Mathematics and History, and prevocational/practical subjects such as agriculture, art and craft and home science (Lauglo, 1985). Diversified education programmes are aimed at equipping the youth with essential skills and appropriate attitudes in preparation for the world of work in relation to the social and economic development (Lauglo, 1985).

In Kenya, the inclusion of practical education in the school curriculum dates back to the time formal education was introduced by the missionaries in the early 1840s (Bogonko, Otiende and Sifuna, 1986). The practical education curriculum was upheld and encouraged by the Colonial Government up to the time of political independence in 1963. In this regard, most of the education commissions in the first half of the 20th century (Fraser, 1909; Education Commission, 1919; Phelps-Stokes, 1923; Beecher, 1949; Binns, 1952), emphasized the need to give practical education

to the Africans in Kenya, as well as in other British Colonies in Africa. The Education Commission (1919), for example, stressed the point that literary education could "ruin the child", by making him/her aspire for white-collar jobs; hence, the need to give practical education.

Even after independence, the Kenya Government recognized the need to equip the primary school leavers with practical skills and appropriate attitudes towards manual work. This need was due to the rapidly increasing youth unemployment problems, especially for primary school leavers (Sheffield, (Ed.). 1967) as a result of the increased enrollment rates in primary schools. For instance, enrollment in primary schools grew from 891,553 pupils in 1963 to 1,014,719 pupils in 1964, an increase of 13.8% (Republic of Kenya, 1988); and then to 5,455,996 pupils in 1991 (Ministry of Education, 1992). By 1995, the enrollment had gone up to 5,545,000 pupils (Republic of Kenya, Economic Survey, 1996). These figures represent an average annual growth rate of 6.2 percent as shown in Table 1.1. On the other hand, job opportunities for primary school leavers decreased with time due especially to increasing numbers of young people who proceeded to high school. Kyale Mwendwa (1966) highlighted the primary school leaver problem in the mid-1960s in a paper entitled "Constraints and Strategies in Planning Education," presented at the Kericho (Kenya) Conference. He observed:

Kenya Preliminary Education (KPE) by itself was becoming of little value in search of jobs. Instead it is now at fourth form where the demand and supply of job opportunities is in rough balance... (in Sheffield, (Ed.). 1966, p. 238).

Table 1.1

Growth of Pupils' Enrolment in Primary Schools, 1963 - 1995

Year	No. of Schools	No. of Pupils '000	Annual Growth (%)
1963	6,058	891.6	
1964	5,150 [#]	1,014.8	13.8
1965	5,078	1,020.1	0.5
1966	5,699	1,043.4	2.3
1967	5,959	1,133.2	8.6
1968	6,135	1,209.7	6.8
1969	6,111 [#]	1,282.3	6.0
1970	6,123	1,427.6	11.3
1971	6,372	1,525.5	6.8
1972	6,657	1,675.9	9.9
1973	6,932	1,816.0	15.4
1974	7,668	3,705.9	49.0*
1975	8,161	2,881.2	6.5
1976	8,544	2,894.6	0.5
1977	8,896	2,974.8	2.8
1978	9,243	2,994.9	0.7
1979	9,622	3,698.2	23.5*
1980	10,268	3,926.6	6.2
1981	11,127	3,980.8	1.3
1982	11,497	4,184.6	5.9
1983	11,856	4,323.9	3.3
1984	12,539	4,380.2	1.3
1985	12,936	4,702.4	7.4
1986	13,392	4,843.4	3.0
1987	13,849	5,031.3	3.9
1988	14,288	5,123.6	1.8
1989	14,691	5,389.1	5.2
1990	14,864	5,392.3	0.06
1991	15,196	5,456.0	1.2
1992	15,465	5,530.2	1.4
1993	15,804	5,428.6	-1.8 [@]
1994	15,906	5,556.8	2.4
1995	16,115	5,545.0	-0.2 [@]

Average growth rate = 6.2 percent.

Source: Kamunge Report p.152; Ministry of Education, Statistics Unit, 1992; Republic of Kenya, Economic Survey, 1992; 1996.

Notes. # Number of schools dropped between 1963 and 1964 and then in 1965 due to the amalgamation of primary and intermediate schools. The drop between 1968 and 1969 was caused by similar amalgamation of "feeder" schools, that is, those that go up to std. 4 and pupils move into other schools for std. 5. A few feeder schools still exist in the more remote areas of Kenya.

* Two major increases in pupil enrolment in 1974 and 1979.

1974: The 49% increase resulted from the abolition of tuition fees through a Presidential decree in December, 1973.

1979: The 23.5% increase resulted from the introduction of free primary school milk.

@ The negative growth may have been a result of the cost-sharing policy in education, in line with the structural adjustment programme.

The Kenya Government has continually diversified the school curriculum in order to make it more relevant to the youth and the country's needs. In that context, the most recent Kenyan model of practical education was incorporated in a major educational reform introduced in the mid-1980s. The reform provided for eight years primary education, four years of secondary education and at least four years of university education. This structure represents the 8-4-4 system of education in Kenya. The curriculum designed for the new system was a broad one, emphasizing the teaching of a wide range of practical skills (Republic of Kenya, 1984); the curriculum contains 4 practical subjects: Agriculture, Art and Craft, Home science and Music, each of which incorporates specific skills. For example, the Art and Craft subject includes skill areas such as woodwork, metal work, painting and weaving.

At the primary school level, the 8-4-4 curriculum was therefore expected to cater for the majority of the children for whom primary education is terminal by providing them with practical/prevocational skills, as well as realistic attitudes towards work and self-reliance. The assumption was that the school leavers could earn a decent living if they had a wide range of skills and the flexibility of mind to adjust to whatever occupational opportunities were available to them (Republic of Kenya, 1984).

Primary education marks the end of formal education for many children due to limited opportunities for secondary and higher education in the country. For instance, in 1990, out of the 384,468 standard 8 pupils who sat for the KCPE

examination in that year, only 171,637 pupils (44.6%) had access to secondary education, leaving out 55.4 percent of pupils (Ministry of Education, 1992). Table 1.2 shows the statistics indicating the percentage of standard eight pupils who were admitted into secondary schools each year, in both public and private schools for a period of ten years, between 1985 and 1995.

Implementation of the 8-4-4 prevocational curriculum commenced in January 1985, in all the 12,936 primary schools in Kenya (Ministry of Education, 1989). In 1991 there were 15,196 primary schools offering the curriculum in the Republic (Ministry of Education, 1992). The period between the curriculum design in 1984 and curriculum implementation in January 1985 was very short, that is, less than one year.

In addition, the school communities were expected to provide workshops, equipment, tools, materials and all the learning opportunities required for their schools (Republic of Kenya, 1988). Due to socio-economic differences between the various communities, provision of the facilities did not proceed uniformly throughout the country. In fact, a formative evaluation of the 8-4-4 programme by the Ministry of Education revealed that most schools did not have adequate facilities five years after commencement of the implementation of the programme (Kenya Institute of Education (KIE), 1990). Hence, the implementation was hurried.

Although there was a general shortage of physical facilities, there were however, a few schools that were adequately equipped for practical subjects. Some

Table 1.2

Percentage of Std. 8 Pupils admitted into Form 1,
from One Year to the next, 1985 - 1995

Year	No. of Std. 8 Pupils	No. admitted into Form 1	Percentage (%)
1985/86	360,146	163,284	45.3
1986/87	344,954	165,247	47.9
1987/88	368,165	173,605	47.2
1988/89	368,417	166,748	45.3
1989/90	414,610	171,071	41.3
1990/91	384,468	171,637	44.6
1991/92	366,281	175,348	47.9
1992/93	386,464	151,103	39.1
1993/94	403,468	168,914	41.9
1994/95	395,765	180,010	45.5

Average Percentage 44.6 = 45 %

Source: Ministry of Education, Statistics Unit, Nairobi, 1992; Republic of
Kenya, Economic Survey, 1996.

of the well equipped schools in the country, for example Kangaru Primary School in Embu District, have benefitted from donor agencies such as Plan International, while others have been equipped through parents' and community efforts, according to the inspectors of two prevocational subjects, Art and Craft and Agriculture (Interview, September, 1991). Hence, there was a wide disparity in the quality of schools regarding the extent to which they were equipped to offer Art and Craft. For schools that were poorly equipped, the teachers had to rely mainly on resources outside the school, such as local craftspeople (KIE, 1992), to facilitate learning in practical subjects.

For effective teaching, each of the 12,936 primary schools in the Republic in 1985 required at least one teacher for each of the four practical subjects: Agriculture, Art and Craft, Home Science and Music (Republic of Kenya, 1988). A minimum of 51,744 teachers of practical subjects was therefore required to start the teaching of practical skills on a firm foundation. The primary teachers training programmes before 1985 did not adequately cater for practical subjects, which were then optional subjects (Ombwochi, 1984). A trainee teacher could graduate from college with a failing grade in art education for example, or without having done the subject at all, as long as he/she passed any one of the other practical subjects (Ombwochi, 1984).

A major programme was, therefore, required for retraining serving teachers and the training of new ones in sufficient numbers (at least one teacher for each practical subject per school) to build a competent teaching force for the new

programme. However, even after seven (7) years of implementation, the Ministry of Education acknowledged that the training of teachers for practical subjects has been inadequate. In 1992, the then Minister for Education, Joseph Kamotho, admitted that teachers were not properly trained for practical subjects. He said that formative and summative evaluations of the system by the Ministry had revealed that "the aims of practical skill subjects were over-ambitious, since teachers were not adequately prepared to handle the subjects" among other factors (Wachira Kigotho, The Standard, 23rd July, 1992, p. 1). Shortage of adequately trained teachers is a major stumbling block to the achievement of the goals of prevocational education (Cacace, 1981).

Another aspect that would affect the teaching-learning process and consequently, performance in the various subjects, is the scope and depth of the curriculum. For instance, the curriculum at the upper primary level requires that pupils undertake a total of 14 subjects (Republic of Kenya, 1992). Table 1.3 shows that the pupils in the upper primary school between classes 6 and 8 are required to take fifty lessons a week; an average of 10 lessons per day, each lesson with a period of 35 minutes. This learning load is too demanding for effective coverage of all the subjects in the curriculum. The situation of the loaded curriculum had been noted earlier in the Kamunge Report (1988). The report indicated that the curriculum was overloaded and should be reviewed in order to scale down the number of subjects per pupil, hence, providing more time for in-depth coverage for

Table 1.3

Primary Education Curriculum: 1985 - May 1992;

Subject Time Allocation

Subject	<u>No. of Periods per Week</u>		
	Std.1-3	Std.4-5	Std.6-8
1. Art and Craft	3	4	-
2. Art	-	-	3
3. Craft	-	-	4
4. Agriculture	-	3	3
5. Business Education	-	-	3
6. English	5	7	7
7. GHC	2	4	4
8. Home Science	-	3	4
9. Kiswahili	5	4	4
10. Mathematics	5	7	6
11. Mother Tongue	5	-	-
12. Music	2	2	2
13. Physical Education	5	3	3
14. Religious Education	4	3	3
15. Pastoral Programme	1	1	1
16. Science	3	3	3
Total	40	44	50

Length of Periods:

Lower Primary, Std. 1-3: 30 minutes each;

Upper Primary, Std. 4-8: 35 minutes each.

Source: Republic of Kenya, 1986.

each subject (Republic of Kenya, 1988). This, in turn, would improve pupils' performance in the subjects undertaken.

The Ministry of Education through the Kenya Institute of Education subsequently undertook a review of the curriculum. Table 1.4 shows the number of subjects per pupil in the revised syllabus of May, 1992. As shown, the statistics in Table 1.4 are exactly identical to those in Table 1.3, indicating that there was no reduction on the total number of subjects, contrary to the Kamunge Report. Thus, with 14 subjects to be covered every week, the learning may be superficial. The time allowed for each subject, as shown in Tables 1.3 and 1.4, would not be sufficient to allow in-depth coverage of the content, especially for the practical subjects.

The other factor that affects the teaching-learning process in Kenya is the issue of certification. As of 1992, the practical component of Art and Craft was not assessed for the award of the KCPE Certificate, as was the case with other prevocational subjects. Although the theory paper incorporates questions on aspects of the practical work, the marks awarded for projects done by the pupils were not considered for certification (Interview with National Inspector for Art and Craft, MOE, September, 1991). In view of the importance attached to the certificate, there is danger of the practical subjects being relegated to an inferior position in comparison with other subjects by both the teachers and the pupils. In such cases, a problem of time allocation could arise; teachers might be tempted to reallocate time meant for practical subjects on the timetable to academic subjects

Table 1.4

Primary Education Curriculum: May, 1992;
Subject Time Allocation

	<u>No. of Periods per Week</u> Subject		
	Std.1-3	Std.4-5	Std.6-8
1. Art and Craft	3	4	-
2. Art	-	-	3
3. Craft	-	-	4
4. Agriculture	-	3	3
5. Business Education	-	-	3
6. English	5	7	7
7. GHC	2	4	4
8. Home Science	-	3	4
9. Kiswahili	5	4	4
10. Mathematics	5	7	6
11. Mother Tongue	5	-	-
12. Music	2	2	2
13. Physical Education	5	3	3
14. Religious Education	4	3	3
15. Pastoral Programme	1	1	1
16. Science	3	1	1
Total	40	44	50

Length of Periods: Lower Primary, Std. 1-3: 30 minutes each; Upper Primary, Std. 4-8: 35 minutes each.

due to the strong emphasis placed on academic subjects for the KCPE Certificate. Bessey (1972) had observed a similar situation for Art and Craft in the previous education system, according to a study on the subject.

With regard to overall performance in Art and Craft at the KCPE level, an examination of the results between 1986 and 1991 shows that the average mean score for Art and Craft was the second lowest among 8 subjects (see Table 1.5). In 1986 for example, Art and Craft had the lowest mean score (38.2 percent) compared to all other subjects (Kenya National Examinations Council (KNEC), 1987). In the current 8-4-4 system of education, the overall performance at KCPE takes into account a candidate's performance in all subjects including Art and Craft, which was previously not considered for certification at the end of primary education. In addition, pupils from all backgrounds are expected to take Art and Craft as a subject, whereas this was optional in the previous system. Besides the issue of certification, it is expected that the pupils would have acquired practical skills to a level that can assist those who terminate their education at the end of primary school to join the world of work.

Attitudes for teachers and learners towards Art and Craft and any subject for that matter constitute an important factor in the process of teaching and learning (Wako, 1975). For example, according to Musango (1982), the poor performance he observed for 'O' Level art examinations in Uganda was due in part to teachers negative attitudes towards the subject. In Kenya, several studies have shown that there were negative attitudes towards Art and other practically oriented subjects

Table 1.5

Mean Scores for the various KCPE Subjects between 1986 and 1991

Year	A&C	MUSIC	MATHS	GHC	REL	H/S	SCI & AGRI.	ENGLISH	KISWAHILI
1986	38.2	-	47.1	51.4	56.2	46.2	54.0	48.3	58.0
1987	46.0	63.1	40.6	54.6	56.3	47.9	58.0	53.7	67.6
1988	47.6	61.9	44.3	60.5	56.7	57.6	51.8	54.5	63.8
1989	46.3	55.6	38.3	55.4	64.1	63.6	41.7	64.4	59.5
1990	56.6	62.5	45.5	60.3	70.1	52.7	54.4	46.5	74.5
1991	49.0	71.9	45.0	50.5	52.8	62.0	53.0	47.7	64.3
1992	51.2	-	47.3	65.4	55.4	52.4	54.3	51.4	61.4
1993	51.1	-	43.5	62.7	61.3	47.6	54.5	50.4	61.2
1994	51.2	-	46.6	66.7	68.3	59.1	51.7	51.3	61.0
1995	51.3	-	46.8	71.7	65.4	50.3	52.8	45.7	60.9
1996	56.1	-	48.4	71.6	59.5	58.8	58.5	49.7	64.1
Average	44.9	63.0	45.2	61.0	60.6	54.4	53.2	51.2	63.3

(Gombe, 1990; Shiundu, 1987). Gombe pointed out that the negative attitudes had a negative effect on the teaching – learning process and consequently performance.

1.2 Statement of the Problem

Since the inception of the 8-4-4 system of education in Kenya, pupils' performance in Art and Craft has been among the poorest compared to other subjects at KCPE as mentioned in the previous section. In view of the importance currently attached to Art and Craft as a prevocational subject (Republic of Kenya, 1984), that poor performance is an issue that requires attention from educators. Therefore, this study investigates pupils' performance in Art and Craft. In addition, the study explores pupils' attitudes towards the subject, given that there is usually a positive correlation between attitudes and performance in any subject (Wako, 1975).

The Kenya National Examinations Council in the analyses of the performance has highlighted the poor performance in Art and Craft for the different years since the KCPE examination started in 1985. The Council had the following comment on Art and Craft performance for the year 1987, "...the average candidate scored 38.2% By any standards, therefore, it is clear that the performance in this section was not impressive..." (KNEC, 1987, p. 114).

On the issue of pupils' attitudes towards Art and Craft, studies have shown that they have been generally negative throughout the period of formal education (Republic of Kenya, 1964; Sifuna, 1981; Gombe, 1990). In spite of that, no efforts were made towards changing those attitudes to positive attitudes prior to implementation of the curriculum. For the current Art and Craft programme to be successful, it is imperative that the pupils have positive attitudes towards the subject.

Until now, no study has been carried out on pupils' performance in Art and Craft and their attitudes towards the subject for pupils graduating from primary schools, within the 8-4-4 system of education. This study attempts to fill that gap.

1.3 Purpose of the Study

The purpose of this study is two-fold: first, to determine the extent to which the 1991 standard eight pupils in Embu District, Kenya, attained the desired knowledge and skills in Art and Craft. Secondly, to investigate the pupils' attitudes towards the Art and Craft subject. The following research objectives were therefore addressed:

1. To determine the level of performance attained by pupils in Art and Craft in relation to:
 - (a) the extent to which schools were equipped to offer Art and Craft
 - (b) the type of school, whether urban or rural, boarding or day

- (c) pupils' gender
 - (d) parental occupations.
2. To investigate pupils' attitudes towards Art and Craft in relation to the variables listed in objective (1) above.
 3. To investigate teachers' preparedness for the teaching of Art and Craft.
 4. To identify the problems affecting the teaching and learning of Art and Craft in schools.

1.4 Hypotheses

Based on the above objectives, the following hypotheses were proposed for examination in this study:

- H₁: There is a significant relationship between the pupils' theory performance in Art and Craft and the extent to which schools are equipped to teach the subject.
- H₂: There is a significant relationship between pupils' practical performance in Art and Craft and the extent to which schools are equipped to teach the subject.
- H₃: There is a significant difference between the theory performance in Art and Craft for pupils from rural schools and those from urban schools.
- H₄: There is a significant difference between the practical performance in Art and Craft for pupils from rural schools and those from urban schools.

- H₅: There is a significant difference between the theory performance in Art and Craft for pupils attending boarding schools and those attending day schools.
- H₆: There is a significant difference between the practical performance in Art and Craft for pupils attending boarding schools and those attending day schools.
- H₇: There is a significant difference between boys' and girls' theory performance in Art and Craft.
- H₈: There is a significant difference between boys' and girls' practical performance in Art and Craft.
- H₉: There is a significant relationship between pupils' theory performance in Art and Craft and fathers' occupations.
- H₁₀: There is a significant relationship between pupils' practical performance in Art and Craft and fathers' occupations.
- H₁₁: There is a significant relationship between pupils' theory performance in Art and Craft and mothers' occupations.
- H₁₂: There is a significant relationship between pupils' practical performance in Art and Craft and mothers' occupations.
- H₁₃: There is a significant difference in attitudes towards Art and Craft for pupils from urban schools and those from rural schools.
- H₁₄: There is a significant difference in attitudes towards Art and Craft between pupils attending day schools and those attending boarding schools.

- H₁₅: There is a significant difference between boys' and girls' attitudes towards Art and Craft.
- H₁₆: There is a significant relationship between pupils' attitudes towards Art and Craft and their mothers' occupations.
- H₁₇: There is a significant relationship between pupils' attitudes towards Art and Craft and their fathers' occupations.

1.5 Significance of the Study

One important aim of offering a practically oriented curriculum at primary level in the 8-4-4 system of education is to provide the pupils with knowledge, skills and attitudes which will enable them to be self reliant upon leaving school (Republic of Kenya, 1988). It is important to continually assess the extent to which the pupils attain the expected knowledge, skills and attitudes in order to ensure that this aim is achieved, and to facilitate any adjustments that may be necessary in the programme. This study is expected to show the status of the pupils' achievement in Art and Craft skills as reflected by their performance in the subject. This information provides a basis on which recommendations can be made towards the improvement of the programme.

Since the commencement of the 8-4-4 programme, considerable efforts and sacrifices have been made by all communities in Kenya to provide schools with the facilities and equipment required for successful execution of the programme. It is

necessary to explore how effectively the desired learning is taking place in order to provide feedback to those who support the programme.

The role of attitudes in the teaching and learning of Art and Craft skills is very crucial (Musango, 1982; Gombe, 1990). Investments in physical facilities are in vain if the attitudes of the pupils, teachers and the communities are negative towards the subject. This study is significant in that it attempts to provide information on the attitudes of the pupils towards Art and Craft. This information can then be used in designing appropriate remedial measures to improve performance in the subject and ultimately ensure success of the programme.

In addition to the importance of this study to education practice as explained above, the study is also expected to contribute to new knowledge in the area of performance and attitudes. This is particularly so in relation to the new status of the Art and Craft subject of being examinable as well as compulsory for all pupils at primary level. For example, does the current status of the subject influence the kind of attitudes the learners have towards the subject? Given that the attitudes have generally been found to be negative towards practical subjects including Art and Craft, if the results of this study show that they are positive, such a finding may mean that the new status has had a positive influence on the attitudes.

1.6 Delimitations of the Study

Out of the four prevocational subjects in the primary education curriculum, that is, Art and Craft, Agriculture, Home Science and Music, only Art and Craft is

Limitations of the Study

examined in this study. Each of the four subjects has a wide variety of practical skills taught, quite distinct from those of other subjects. Therefore, Art and Craft is the focus of this study.

Studies such as those of Kathuri (1984), Eshiwani (1986), and Gombe (1990) have shown that there are several factors that generally affect pupils' achievement in learning and their attitudes. These factors include: family background (indicated by measures such as parental occupation, level of education, income and expectations), pupils' ability, school and teacher characteristics, peer influence and gender. Most factors associated with family background, although important, would require a separate study for in-depth investigation. The only factor examined in that category was parental occupation. This is because Art and Craft is a subject that renders itself to "blue collar" jobs. These occupations may influence parents' attitudes towards the Art and Craft subject, and consequently those of their children. Further, even within the main categories selected, that is, schools' and teachers' characteristics, only the following factors were considered:

- (i) The extent to which the school was equipped to teach Art and Craft
- (ii) The location of the school, that is, whether rural or urban
- (iii) Boarding or day school settings.

Pupils' Attributes: These were delimited to gender. Other attributes such as pupils' age were not considered in relation to performance for this study.

1.7 Limitations of the Study

The major limitation of this study is related to the period of the study. Although the 8-4-4 education system had been in operation for about seven years, from the time of introduction in January 1985 to the time data was collected in September 1991, the system could still be accurately described as having been in its implementation stage; the system had not adequately stabilized. Hence, the findings would probably be different in a study done at a later stage in the evolution of the 8-4-4 education system.

The second limitation pertains to the use of the English language¹ in the pupils' questionnaires. Although the medium of instruction in Kenyan primary schools is English in the upper classes, Stds. 4 - 8, the level of understanding of English for the pupils may be limited. There may also be variance in the language ability among the urban and the rural pupils, in favour of the former. The limitation and variance in understanding English may affect the pupils' ability in completing the questionnaires. The effect of this limitation was reduced in two ways:

¹ In Urban schools, English is generally used as the main medium of instruction in all classes including Std. 1, whereas in the rural schools, mother tongue is incorporated in the instruction for lower primary classes, that is, Std. 1 - 3.

- (i) by using the results of the pre-testing: The language used in the questionnaires was simplified as much as possible, using the results of the pilot project.
- (ii) By conducting the administration of the pupils' questionnaires by the researcher herself in a classroom setting. The researcher first established an atmosphere in which the pupils were encouraged to ask questions freely and with ease. Any difficult terms were explained thoroughly, and where necessary and possible, the pupil's mother tongue was used.

Additionally, responses to items on the Likert scale required that the subjects indicate their feelings with regard to various issues related to Art and Craft. The responses may have been affected by other issues related to social norms, or by providing responses that one felt would be socially acceptable. Such factors therefore, may have affected the attitude measurement. However, assuring the respondents that the information they gave was going to be treated confidentially reduced the effect of this limitation.

1.8 Assumptions underlying the Study

The instruments used for the assessment of the pupils' theory Art and Craft performance was the 1991 KCPE Examination (Appendix G), from the Kenya National Examinations Council. It was therefore assumed that:

- (i) The instrument/examination was valid and reliable. The validity and reliability of the examination/instrument had been established prior to the examination by KNEC officials.
- (ii) The scoring and standardizing process for the candidates' work was reliable and that the scores obtained were valid.

Similarly, the assessment schedule (Appendix F) for assessing the pupils' Art and Craft practical projects was adopted from the one that was used by the Ministry of Education for the Continuous Work Assessment (CWA). Similar assessment schedules had been used for the previous five groups of pupils, that is, for pupils since the commencement of the KCPE examination in 1985. It was therefore assumed that the CWA schedule was valid and reliable for purposes of assessing the pupils' projects.

1.9 Definitions of Terms used in this Study

Art refers to the expression of human creative talent, especially in a visual form, for example painting. (Hornby, 1995, p.56).

Craft refers to a creative artistic activity involving construction, carving, weaving and sewing etc. as opposed to drawing. (Chambers, 1988, p.331).

Attitudes refer to generalized mental and neutral states of readiness to respond positively or negatively to certain objects, events, and conditions in the environment (Garry, 1963, p. 37).

Kenya Advanced Certificate of Education (KACE) refers to the certificate awarded to candidates upon successful completion of a two-year programme after "O" levels, in the previous 7-4-2-3 education system.

Kenya Certificate of Education (KCE) refers to the certificate awarded to successful high school graduates at form four in the previous education system.

Kenya Certificate of Primary Education (KCPE) refers to the certificate awarded to all candidates who complete the 8 years of primary education in the current 8-4-4 system.

Performance refers to the overt behaviour that demonstrates the possession of the ability to do a particular task.

Technical Experts (TE) refer to the Art and Craft experts who participated in the study as research assistants.

TE Scores refers to the scores obtained from the assessment of pupils practical projects by the technical experts.

7-4-2-3 Education System refers to the previous education system in Kenya offered between 1964 and 1984, consisting of seven years in primary, four years in secondary, two years of Advanced secondary ("A" level) and at least three years of university education.

8-4-4 Education System refers to the current education system in Kenya, from 1985 to date, consisting of eight years of primary, four years of secondary and at least four years of university education.

1.10 Summary of the Chapter and Outline of Succeeding Chapters

This study is organized into five chapters. The first chapter provides the introduction to the study, background to the problem, statement of the problem, the purpose of the study, the research objectives, hypotheses, delimitations, limitations and assumptions of the study, operational definitions of the various variables, and finally the organization of the study.

Chapter Two presents the review of related literature. It discusses the meaning of prevocational education, provides a brief exposition of traditional African arts and crafts, and analyses some researches done on practical education programmes. Finally, the conceptual framework for the study is presented.

In Chapter Three, the methodology for the study is discussed. The chapter starts by rationalizing the area of the study and then describes the target population, the sampling procedure and sample size. The research instruments are then discussed, and finally the methods of analysis of the data are outlined. Chapter Four presents the findings of the study. The first section of Chapter Four discusses findings on performance in Art and Craft. Both descriptive and inferential statistics are used in examining the relationships between the variables in the study. The second section deals with findings on the pupils' attitudes towards Art and Craft. In

addition, the problems identified in this study which affect the teaching and learning of Art and Craft are presented.

Finally, Chapter Five provides a conclusion for the study in which the major findings are noted and discussed. Some important implications are also pointed out and recommendations made.

In this chapter, the meaning of prevocational education is first discussed to establish the context in which performance and attitudes towards the Art and Craft subject are examined. This is followed by a review of literature on traditional African arts and crafts, from the continental perspective to the peoples of the Embu District in which the study took place. This is expected to provide further insight into some of the factors that may affect attitudes and performance in Art and Craft for the learners. Thereafter, a review of various practical education programmes, along with related research on those programmes, is presented. The focus of the review is on performance and attitudes, especially in the area of Art and Craft. Finally, a conceptual framework for the study is established.

2.2 Meaning of Prevocational Education

According to the Ministry of Education, the 3-4-4 primary Art and Craft subject is considered prevocational. The Statutory Order No. 6 of 1988 says, "prevocational education is offered as part of the 3-4-4 primary education to lay a

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

In this chapter, the meaning of prevocational education is first discussed to establish the context in which performance and attitudes towards the Art and Craft subject are examined. This is followed by a review of literature on traditional African arts and crafts, from the continental perspective to the peoples of the Embu District in which the study took place. This is expected to provide further insight into some of the factors that may affect attitudes and performance in Art and Craft for the learners. Thereafter, a review of various practical education programmes, along with related research on those programmes, is presented. The focus of the review is on performance and attitudes, especially in the area of Art and Craft. Finally, a conceptual framework for the study is established.

2.2 Meaning of Prevocational Education

According to the Ministry of Education, the 8-4-4 primary Art and Craft subject is considered prevocational. The Sessional Paper No. 6 of 1988 says, "prevocational education is offered as part of the 8-year primary education to lay a

foundation for training and employment after school" (Republic of Kenya, 1988, p. 17).

In addition, the guidelines for the 8-4-4 system of education include the statement that "primary education aims at providing children with adequate practical skills useful for living" (Republic of Kenya, 1984, p. 3). The same text elaborates further that "... it is mainly through the teaching of practical subjects, that is, Art and Craft, Agriculture, Home Science and Music, that pupils will acquire practical skills." Therefore, the meaning of prevocational education is provided.

Prevocational education involves the integration of academic and vocational aspects of education in the general school system. According to Diyasena (1976), prevocational studies are "a part of the school instructional programme, the content of which is related to specific vocations in such a way that the pupils have the opportunity of learning about a vocation or vocations" (p. 6).

The overall aim of prevocational education is therefore, to equip the pupils with a wide and useful range of skills, cognitive learning and appropriate attitudes which would bring about a smooth transition from school to work or into further or higher education as the case may be, upon termination of the school programme (Diyasena, 1976). In other words, as Lauglo (1985) puts it, prevocational studies aim at providing an "exposure to" or "familiarization with" knowledge and skills relating to "broad families" of occupations (p. 4).

The Art and Craft curriculum satisfies the description of prevocational education in many ways. For instance, one of the curriculum objectives states that the pupils are expected to make useful and functional articles such as table mats, baskets, chairs and greeting cards, which can even be marketed (Republic of Kenya, 1984). The objective highlights the feature that practical skills should be geared towards productive work.

In this study, no distinction is made in the use of the terms prevocational and practical education. Both terms, prevocational and practical, are used to refer to practical skills taught in the context of particular vocations that pupils may end pursuing after school.

2.3 Traditional African Arts and Crafts

This section presents information on types of African art, and methodologies used in transmitting knowledge and skills in arts and crafts. Then this section highlights the specific arts and crafts in Embu District. Gender and age differentiation in arts and crafts activities, as well as materials used and the mode of training, are also discussed.

2.3.1 Types of African Art

Leuzinger (1960), Delange (1974), and Robarts (1981), among others, enumerate various types of African art including decorative arts, sculpture, leatherwork, smithery, weaving, basketry and building. Decorative arts include painting, beadwork, tattooing, and involve items such as containers, garments and tools. Some of the decorations are meant to be enjoyed purely for their own sake (Leuzinger, 1960).

The various types of art were produced according to gender and sometimes-required specialized skills. Leuzinger (1960), commenting on the strictness of the division of labour in regard to the various arts noted that "a sharp dividing line is drawn between the work of men and women. It would be regarded as discreditable to perform tasks appropriate to the opposite sex" (p. 32). For instance, women generally dealt with areas such as pottery and basketry, while men dealt predominantly with sculptures, building and smithery (Delafield, 1967; Leuzinger, 1960; Robarts, 1981).

There were some trades however, that were highly specialized. For instance, metalwork (smithery) was done only by blacksmiths, and was a trade for a few talented and privileged members of the society, who were always men (Delafield, 1967). The few blacksmiths were highly respected and feared, and there were usually enough of them to serve the society adequately.

2.3.2 Methodology used for Transmitting Arts and Crafts Knowledge and Skills

The main methodology used for transmitting knowledge and skills for arts and crafts in Africa was apprenticeship, a system in which the master or instructor explained and demonstrated the skill, and the student imitated and repeatedly practiced the skill (Ngetho, 1984; Robarts, 1981). Some of the knowledge transmitted included selection of the right materials and taboos connected with the various practices.

Following is a discussion on Embu traditional arts and crafts to identify similarities and differences with African art as presented above. Thereafter, a brief exposition of the Art and Craft curriculum as offered in schools within the 8-4-4 programme is provided.

2.3.3 Embu Traditional Arts and Crafts

The Embu traditional arts and crafts were very similar to those of the rest of Africa. For example, arts and crafts among the Embu people were undertaken mainly for specific functional purposes. Ngetho (1984) observed that "arts and crafts (in Embu) were never undertaken for their own sake. They had an intrinsic use in daily life" (p. 31).

The various types of artwork included decorative arts, sculpture, smithery and basketry. Decorative arts were popular with men and women and included

body and clothes decorations, as well as those of dwelling places. Both men and women decorated themselves with items such as beads, copper and brass wires, and earrings (Mwaniki, 1974; Ngetho, 1984, pp. 31-32). With regard to specialization, the situation was such that a few trades, especially smithery, were very specialized and were done by only a few talented men.

2.3.4 Gender and Age Differentiation in Arts and Crafts Activities

As in the rest of Africa, artwork was produced according to gender, and the age factor was an important determinant of what an individual could engage in from childhood to adulthood. In this regard, Ngetho (1984) noted that: "With the variety of arts and crafts, there was evident division by sex and age" (p. 31). Thus, among the females, three clear age groups were identified with different arts and crafts. These groups were: small girls, mature uninitiated girls, and mature initiated women, all dealing with different items. For males, the set-up was similar to that of the females. For both males and females, the younger ones imitated the older ones as part of the learning process (Ngetho, 1984).

2.3.5 Materials used for Arts and Crafts

Both Mwaniki (1974) and Ngetho (1984) found from their studies that the materials used in arts and crafts were generally obtained from the immediate

physical surroundings. These materials included wood, clay for pottery, and red ochre for decorative arts. Thus, the local environment provided most of the required materials, and hence, dictated the most common arts and crafts in a particular area.

2.3.6 Mode of Training for Arts and Crafts Skills

A study by Ngetho (1984) established that training was done through imitation and repetition of skills. He also noted women generally taught girls, while men passed on their skills to the boys. On the whole, the mode of training was similar to that practiced in the rest of Africa (Ngetho, 1984).

In the 8-4-4 primary Art and Craft curriculum, all the types of arts and crafts are taught equally to all pupils irrespective of gender. This study examines whether boys and girls perform equally well in this subject, for both the KCPE (theory) examination, and in the practical projects presented for examination. With regard to resources for the practical work, teachers and pupils are encouraged to make use of their immediate environments and solicit help from local craftspeople, in addition to using commercial equipment and tools.

2.4 Practical Education Programmes and Related Research

As discussed in Chapter One, several practically oriented programmes have been initiated in various countries. The main aim of these programmes has been to provide a more utilitarian form of education, geared towards the world of work.

The literature on these programmes shows that some have been quite successful in the achievement of that aim, especially in Cuba and China. In Cuba, the educational policy was to integrate school and community life. The policy required that the youth spend part of the year in agricultural production. The programme was so successful that the educational costs were even lowered (Carnoy, 1977). Educational costs sometimes tend to hinder successful implementation of practical programmes, especially with regard to provision of teaching facilities and materials.

Other programmes have not experienced much success for a variety of reasons. One example is the "*Education for Self-reliance*" reform programme in Tanzania, which faced various difficulties in its implementation. Studies carried out by researchers such as Heijnen (1966) and Besha (1974), indicate that the intended goals of the reform were not achieved. For instance, Heijnen, whose study was on job preference, found that the attitudes of the pupils were still negative towards practically oriented occupations, such as farming. He attributed the pupils' attitudes to the attitudes of the communities, which were also negative. Heijnen

concluded that changing the curriculum alone was unlikely to yield the desired results, if the communities' attitudes did not change first.

Patrick Rensburg (1974), in a report on the Swaneng Hill School, Botswana, made similar observations as those by Heijnen. Rensburg attributed the difficulties faced in achieving the ideals of practical education in the school to what students learned outside the school. He wrote the following:

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I have made reference at the staff seminars to the obstacles to achieving our aims, presented by the difference between what we tried to teach the students and what they learned from society.

We had tried, perhaps, to do too much in isolation. (p. 57).

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A study by Matthew Maleche (1976) on unemployment of youth in Kenya also highlighted the importance of the attitudes of the community towards practical education. The study was an analysis of studies done on the unemployed primary school leavers and on the Kenya primary syllabus. The studies analyzed included those of Anderson, (1966), Moock (1972) and Brownstein (1972). The findings linked the pupils' attitudes to those of the community they came from. Maleche, therefore, suggested that the community's attitudes towards practical subjects in primary schools needed to change in order for the pupils' attitudes to change significantly towards appreciating occupations requiring the use of manual skills (Maleche, 1976).

Similarly, Arnold Curtis (1966) had also attributed pupils' attitudes in Kenya to those of the community around them. In a study on primary school leavers, he noted that the attitudes of the school leavers are formed to a large extent by the attitudes of parents and teachers (in Sheffield, (Ed.).

From the findings of the above studies (Heijnen, 1966; Curtis, 1966; Rensburg, 1974 and Maleche, 1976), it is recognized that some explanations of the pupils' attitudes in the present study can be found in the communities and the society at large. However, investigation of this topic falls outside the scope of this study, due to the limitations explained in the Chapter One.

At the national level, Botswana's educational reforms within basic education, currently defined as a 9 year programme consisting of 7 years of primary and 2 years of junior secondary, have continued to take on a more practical orientation. The country's report of the National Commission of Education (NCE) of 1971 states that *the purpose of school at all levels will be to prepare children for a useful, productive life in the real world*. The report also stresses the point that the children should have basic skills that will make them self-reliant later in life. The subsequent National Development Plans, for example those for the periods 1985-1991 and 1991-1997, emphasize a more practical curriculum in an attempt to make it more relevant to the aspirations of the Botswana people, and to achieve the educational objectives stipulated in the NCE report. However, the first systematic classroom research carried out on the basic education programme found that most of what was intended to be "practical work" was unsuccessful, and students in most

cases lacked the basic skills expected (Snyder and Ramatsui, (Eds.). 1990). Reasons given for that situation were "lack of time," or "lack of equipment." Further, it was observed that emphasis was laid on theory aspects of the subjects (Snyder and Ramatsui, (Eds.). 1990).

In Zambia, a major educational reform was instituted in 1977 whose main objective was to introduce production units in the schools. The objectives of the programme were also very similar to those of the 8-4-4 programme in Kenya. The objectives for Zambia included:

1. *To help form socially desirable attitudes in pupils towards manual work.*
2. *To enable pupils learn useful occupational skills for application in later life.*
3. *To facilitate the development of pupils in self-reliance, self-discipline and leadership* (Achola and Kaluba, 1989, p.167).

The findings of an evaluation carried out on the programme almost a decade later, between 1984 and 1985, included the following:

First, the pupils, especially males, rated the production units fairly high, 7th for male pupils and 10th for female pupils among a constellation of 16 subjects. This ranking reflects a general acceptance and respectability for the units among the pupils, with females considering them less favourably (Achola and Kaluba, 1989, p. 169). Most of the pupils, (76%), however, expressed a dislike for production activities when they reported that two periods of 40 minute each per week allocated

to those activities were either sufficient or excessive (Achola and Kaluba, 1989, p. 170). Thus, it could be concluded that the pupils' attitudes towards those activities may not have been appreciably positive.

Secondly, an overwhelming majority of the pupils believed that they were acquiring skills that would be useful to them in the future. However, those who categorically stated that they were obtaining no useful skills were mainly female pupils and pupils from urban schools (Achola and Kaluba, 1989). This finding indicates that the value attached to the acquired skills was differentiated along gender lines and rural-urban categorization. The researchers however, argued that considering the rudimentary nature and the narrow scope of the skills that could possibly be acquired through the production unit activities, the pupils' belief of their possible usefulness was at best misguided. The conclusion thus seems to reflect methodological constraints in dealing with issues of aspirations and attitudes, especially in developing countries. This is because the pupils' responses portrayed a different level of understanding from that which the researchers had in mind. Since Art and Craft is a practical subject, the results obtained from the evaluation of the production units in Zambia, related to gender and rural-urban categorization might be similar to what would be observed in the Kenyan context regarding the subject.

A major recommendation from the Zambia evaluation was that the production units activities should be governed by a clear syllabus and subjected to examinations. Similar recommendations had been made earlier in regard to other

practically oriented programmes, such as the Namutamba Project in Uganda, and the Art and Craft programme in Kenya. The objectives of the Namutamba Project were again very similar to those of the 8-4-4 programme, for example, *"To attempt to check exodus of rural school leavers through the provision of sound experience in general education, prevocational and vocational education"* (Bennaars, 1974, p. 1). Evaluation of the project revealed that the project lacked much credibility due to the absence of an examination element for the project. The evaluators observed that the impact of the project would be increased by examination, since *"examinations largely determined credibility of educational practice in Uganda"* (Bennaars, 1974, p. 5).

In Kenya, evaluation of the Art and Craft programme at primary level in the previous 7-4-2-3 education system also revealed that the subject was almost totally neglected by both teachers and pupils, due to the absence of examination for the subject (Bessey, 1972). However, the actual effect of the examination on acquisition of knowledge, skills and attitudes has yet to be clearly documented. For example, *"to what extent does the examination element influence acquisition of practical skills and knowledge for future utility in the world outside school"*? Casual observations indicate that subjects are taken more seriously in an examination situation, but other factors may still influence the extent to which learning takes place. As explained earlier, the Art and Craft subject in the 8-4-4 education system is examined at the end of the primary cycle, but the grades for the practical component are not taken into account for certification. This may affect

the extent to which the subject is taken seriously, and consequently, the extent to which acquisition of knowledge and skills takes place.

The findings on the above programmes highlight the importance of attitudes, teaching and learning facilities, examinations and socio-economic environments in the achievement of the goals of practically oriented programmes. The following section presents research findings on performance, first from a general perspective and then focused on Art and Craft.

2.5 Research Findings on Performance

This section reviews literature on issues related to performance in schools in general, and on Art and Craft in particular. Specifically, factors that affect performance are highlighted. The review of literature on general academic performance for this study has been necessitated by the limited literature found on performance in Art and Craft.

Research by Kathuri (1984) on factors that influence performance of pupils in the Certificate of Primary Education in Kenya (CPE) found that *quality of teachers, efficient use of teaching methods, a good administrative set-up, and pupils' previous background of abilities*, were the main factors that contributed to performance at CPE. On the other hand, he identified the following factors which did not have an effect on performance: Use of teaching resources (aids); socio-economic background of pupils; and school-community relations.

The last mentioned findings were contrary to what Kathuri referred to as "popularly held opinions" that those factors have a positive effect on performance. For example, with regard to school facilities, he observed the following:

It is generally assumed that better facilities in a school lead to better performance in examinations. This assumption is not supported by this study. This may not necessarily mean that teaching resources or facilities are unnecessary; rather, good as they may be, their effectiveness may depend on how they are made use of in combination with other factors. (Kathuri, 1984, p.12).

The main point raised by Kathuri's study is that provision of facilities per se could not guarantee good performance at CPE, and this may also be applicable for KCPE. It is important therefore, to ensure that while providing the facilities, other measures are put in place simultaneously, to ensure effective use of those facilities.

The same issue regarding teaching facilities and resources was re-emphasized by Mosha (1988), in an article on indicators of quality of primary education in schools within developing countries. He reported that empirical studies aimed at testing theoretical notions on various approaches to school effectiveness revealed that "more important than the amount of resources, is how they are used" (p. 19).

On the other hand, several studies have associated performance with adequacy of facilities. For instance, Mbuga (1986), in a study aimed at investigating problems of teaching Art and Design in secondary schools in Kenya, noted that the syllabus was rarely covered by many teachers. Inability to complete the syllabus is expected to have negatively affected the level of performance in the subject. The reasons given for the inability to cover the syllabus were: Lack of materials, facilities and guidebooks, as well as the fact that Art was neglected in schools since it was a non-compulsory subject for purposes of examinations (Mbuga, 1986).

One of the findings of the formative evaluation by the Kenya Institute of Education (1992) on the 8-4-4 primary education curriculum was that practical skills in general were not acquired by pupils due to lack of facilities and resources, as well as other "transitional implementation constraints" (p. 89). The finding was however, a generalization in that there was no attempt to compare pupils' acquisition of skills in schools that were well equipped with those that were less equipped. This current study aims at examining the performance vis a vis the extent to which schools are equipped; that is, to find out if differences in performance exist among the various categories of schools with regard to facilities.

Closely related to adequacy of facilities is the issue of improvisation, particularly in schools where materials are not readily available. In this regard, one of the findings from the study by Mbuga (1986) was that "improvisation of local materials had been inadequately exploited in most secondary schools, which means

that schools have not tried to minimize the shortage problem of art materials through improvisation...." (p. 25). One of the reasons why the teachers were unable to improvise was their lack of competence in the subject. Mbuga had found out that "Many of the secondary schools have no teachers who have been exposed to art education sufficiently enough to give them the courage for teaching art" (p. 18).

Although the findings from Mbuga's study (1986) were from secondary schools, the situation in primary schools may perhaps be the same. This study examines the extent to which the teachers carry out improvisation, in an attempt to improve pupils' performance in Art and Craft.

A study by Musango (1982) on factors that influence performance at "O"-level art examinations in Uganda attributed the observed poor performance in art at that time to teachers' attitudes. He noted that "a lot of the poor performance at "O" level is due to the negative attitudes of the art teachers and their lack of proper training" (p. 6). Consequently, teachers were not creative in their teaching. However, despite the teachers' negative attitudes, most of the art pupils were found to have liked the subject [art]. What is of special interest in the findings is that although the pupils' attitudes were found to be satisfactory, the results of their art examinations were poor (Musango, 1982). This was explained from the type of curriculum they were undertaking, which had very little relationship with the pupils' experiences in real life, and therefore the "lessons were divorced from the pupils' real needs" (p. 69). The lack of relevance on the part of the curriculum resulted in skills being easily forgotten, leading to poor performance. Further, this study

demonstrates that positive attitudes towards a subject may not necessarily result in good performance in the given subject.

Wako (1975) also pointed this out, in a study she undertook to establish if there was any relationship between students' attitudes towards subjects and their academic performance. Her study was based on seven compulsory subjects at high school level, specifically at form II. These consisted of English, Mathematics, Chemistry, Biology, Physics, History and Geography. She found that generally, there was a positive relationship between attitudes and performance, that is, students performed better in subjects they liked best, "*although in some cases, there was no positive correlation*" (p. 95). The latter part of the finding is significant in that, as Kathuri had observed earlier, the expected trend is usually that attitudes would be significantly correlated with performance.

A study by Mwaniki (1973) on the relationship between self-concepts and academic achievement in Kenyan pupils found that generally, pupils in urban schools performed better than those in rural areas. This was explained by:

- (i) Superior teacher qualifications for urban compared to rural schools;
- (ii) Superior facilities for urban schools; and
- (iii) Better working conditions in school for urban pupils, and probably also at home.

Another significant finding was that rural girls' performance was poorer than that of rural boys. The explanation put forward was that rural girls spent more

time helping at home compared to the boys. The study also found that urban girls performed better than rural girls, and closer to the performance of urban boys. The only exceptional subject was English, in which the girls outperformed the boys in urban schools. On the whole therefore, the study demonstrated that there were differences in performance between rural and urban pupils, in favour of the latter for most subjects. Do these results hold for Art and Craft at KCPE? One of the objectives of this study is to find out whether any differences exist in Art and Craft performance for rural and urban pupils.

***Teachers' Competence:** According to Cacace, (1981), the most crucial factor for the success of any teaching of Art and Craft is the teacher. He based his contention on the fact that most primary schools in developing countries had inadequate facilities and materials for Art and Craft, a factor which requires ingenuity on the part of the teacher. He observed that

in a country where most primary schools are village schools (and great distances separate and isolate them from even small towns), and where schools are difficult to supervise and have little money to provide paints and paper, special qualities are a real necessity in the teacher of Art and Craft. (p. 6).

The above scenario still holds true for most of the schools in developing countries, including Kenya. It is for this reason that the study examines teachers' qualifications in relation to pupils' performance and attitudes towards Art and Craft.

With regard to teachers' competence to teach Art and Craft, a study carried out in Ghana by Asihene (1973) found that teachers of art education were generally not qualified to teach the subject. He found the following, "Art is taught in the primary and middle schools in Ghana by a minority of art specialists and a majority of regular classroom teachers who have little or no training in art" (Asihene, 1973, p. 45).

In discussing teachers' competence, the studies quoted so far relied heavily on teachers' qualifications. However, other studies have clearly demonstrated that qualifications alone cannot make competent teachers. Other factors that contribute substantially and significantly to competence have been identified by some scholars. For instance, Kathuri (1984) observed that quality of teachers, which is an aspect of competence, is affected by the morale of the whole staff in a school. He explained that high morale would result in less disciplinary problems, (for the headteacher), more commitment, and consequently more efforts in looking for ways and means of making teaching more effective. High staff morale was attributed to good administrative set-up in a school.

In the following section, a more detailed discussion of attitudes towards Art and Craft is given, including some of the factors that influence the attitudes.

2.6 Pupils' Attitudes Towards Practical Subjects in General and Art and Craft in Particular

The findings presented in the preceding section suggest that pupils' attitudes towards the practically oriented programmes were negative (Rensburg, 1974; Bennaars, 1974 and Bessey, 1972). In the Zambia case (Achola and Kaluba, 1989), there was no clearcut finding on the pupils' attitudes. In some situations, the attitudes were negative while in others they appeared positive. However, on the whole, attitudes towards such programmes have been shown to be negative, particularly in developing countries.

Kamau (1979) observed that Africans generally tended to have negative attitudes towards art especially since colonialism took effect in the continent. He noted that many indigenous people regarded the Art subject as a waste of valuable school time and suggested that it should be dropped from the school curriculum. He also argued that, as a result of colonialism, Africans adopted "strange ideas" about indigenous art, and hence did not appreciate the value of art.

In Nigeria, several studies, including those of Harrison (1960), Lawunyi (1978), and Morah (1979), have shown that generally, attitudes towards Art and Craft have been negative. For instance, Morah affirmed that Art as a school subject had been relegated to the background for many years in the education system in that country. She felt that the low priority accorded to art was a result of "failure of the

pioneers of western education and indigenous planners to recognize the vital role of art" (Morah, 1979, p. 1).

Lawunyi (1978), in his study on the training of Art teachers for primary education in Nigeria, also pointed out that there were negative attitudes towards Art in the education system. He traced the negative attitudes towards art to the colonial era, and the way indigenous art work was handled by early missionaries. He noted that art objects were considered to have pagan influences on the Christians in Nigeria, and were therefore destroyed by missionaries. Consequently, art education was not included in the mission schools' curriculum (Lawunyi, 1978).

The situation in Kenya has not been different from that in Nigeria and many other African countries. Studies have shown that Art and Craft as well as other practically oriented subjects in Kenya has usually been ranked low among other subjects in the curriculum (Gombe, 1990; Maleche, 1976; and Shiundu, 1987). For example, Gombe (1990), in her study on the status of Art education in Kenyan secondary schools noted that "a general negative attitude towards Art appears to exist among parents, learners and school teachers" (p. 14). The study also emphasizes that those negative attitudes usually tend to hinder the teaching and learning of Art in schools.

Contrary to the findings that pupils' attitudes were negative towards practical education, a change of opinion was observed by Lauglo (1985), in an evaluation study on the industrial education programme in Kenya. Industrial education was a programme that dealt mainly with woodwork and metal work at

secondary school level in the previous education system. The objectives of industrial education were very similar to the current objectives of the 8-4-4 system of education; for example, *"to provide the students with the necessary information which will develop his attitudes towards practical work and improve his manipulative skills, and consequently assist him to become a contributing member of Kenya"* (Lauglo, 1985, p. 117). Among the questions asked in his study was whether the exposure to industrial education in school influenced graduates' occupations in the world of work. The findings of the study showed that students who had gone through industrial education had more positive attitudes towards practically oriented occupations, compared to graduates of general education. Lauglo noted that *"those with more exposure to industrial education are more interested in practical/technical work and expect more often than others to find such jobs eventually"* (p. 154).

The study concluded that the climate of opinion was changing in favour of applied subjects, among students and parents, compared to say 15 years earlier (Lauglo, 1985). The question here is whether the findings which were based on industrial education, a programme with highly sophisticated and modern equipment and facilities, at secondary level, would be generalizable to other forms of practical programmes with fewer resources such as the 8-4-4 Art and Craft programme offered at primary school.

One of the important findings from the Maleche (1976) study was that the teacher's role in preparing the pupils for the world of work was a difficult one,

because it was akin to encouraging the pupils to aim low, as opposed to aiming high for secondary school places. Maleche (1976) found that the aspirations for secondary education may have affected pupils' attitudes towards practical education.

As early as the 1960s, studies had established that pupils' aspirations for secondary schooling were very high. Anderson (1966), in a study that investigated the status of primary school leavers in rural areas in Kenya, noted the following:

In many parts of Kenya, there is an understandable desire for pupils to try and [sic] repeat standard 7 in the hope of either getting a KPE certificate or better grades and consequently a secondary school place. (p. 10).

He went on to re-emphasize that point by noting that "repeating 3 or 4 times is not unheard of especially for younger boys who stand a good chance of eventually getting a secondary school place " (Anderson, 1966, p. 10).

It is noted that both studies, Anderson's and Maleche's, took place several years ago, and were based on the previous 7-4-2-3 education system in Kenya. It is also noted that Maleche's study was not an empirical one, in that it was based on the findings of other researchers. The validity of the study is therefore, depended on the quality of the other studies. Hence, there is need for a study on the 8-4-4 education system, to establish if their conclusions are still applicable.

There is evidence that limited opportunities for satisfactory employment to enable primary school graduates to be self-reliant may be one of the main causes for the high aspirations for secondary education. For instance, the study by Moock (1972) found that the available training programmes after primary education provided very poor prospects for a good life after graduation, for the youth in Kenya. She also found that, generally, the communities were receptive to the idea of vocational training after primary school as an alternative to secondary school entry; however, she noted the following:

Although there seems to be community readiness for vocational training programmes to secondary school entry, such programmes ... offer no guarantee for employment. Until vocational programmes are designed which offer quality training, marketing contacts and institutional organization to overcome the constraints upon aspiring entrepreneurs, parental pressure will keep the educational system focussed upon secondary school participation. (Moock, 1972, p. 22).

With regard to the methods of teaching it has been found that the high aspirations for secondary schooling has affected the mode of teaching and learning especially in the upper primary classes in Kenya for quite some time. The results of a programme of research and action carried out by Makau and Somerset (1980) suggested a reformation of the CPE examination, and indicated that the

examination was dreaded to such an extent that it negatively affected the teaching, in a significant manner. They observed the following:

Because its consequences are so drastic, the examination (CPE) has powerful backwash effects on teaching in the upper primary school.

In standards six and seven particularly, the effect is defined not by the content of the text books or the official syllabus, but by the questions included in CPE examination. (p. 3).

Thus, the teaching methods basically involved drilling towards passing examinations. There have also been several different types of trial mock examinations offered to pupils in almost all classes at primary school, organized at different levels (zonal, divisional, and district), prior to the main examination. These practices may end up having a major effect on pupils' Art and Craft performance at KCPE, thus limiting the positive influence of other factors that will be highlighted in the following section.

From the above studies, some of the factors that have contributed to negative attitudes towards Art and Craft and other practically oriented subjects include: influence of colonialists and early missionaries; community attitudes; examination element; inadequate teaching and learning facilities; and pupils' aspirations for higher education.

2.7 Conceptual Framework

In establishing a conceptual framework, the concept of attitudes is first discussed and the way in which it is applied to this study is explained. Thereafter the meaning of performance is provided, and the factors that influence performance (identified in the preceding sections of literature review) are highlighted. The framework singles out the factors that this study is concerned with, in relation to performance.

2.7.1 The Concept of Attitudes

Attitudes have been defined as "generalized mental and neutral states of readiness to respond positively or negatively to certain objects, events, and conditions in the environment" (Garry, 1963, p. 37). Kibble and Garnezy (1968) elaborate further by observing that attitudes have both cognitive and affective components. The cognitive component encompasses knowledge, opinion, and belief, while the affective component is the emotional reaction to the object of the attitude. A third component of attitudes, the behavioural component, was identified by Triandis (1971). He defines an attitude as "an idea charged with emotion which predisposes a class of actions to a particular class of situations" (p. 2). He explains that an attitude has three components: a cognitive component, that is, the idea about the object of attitude; an affective component, the emotion which

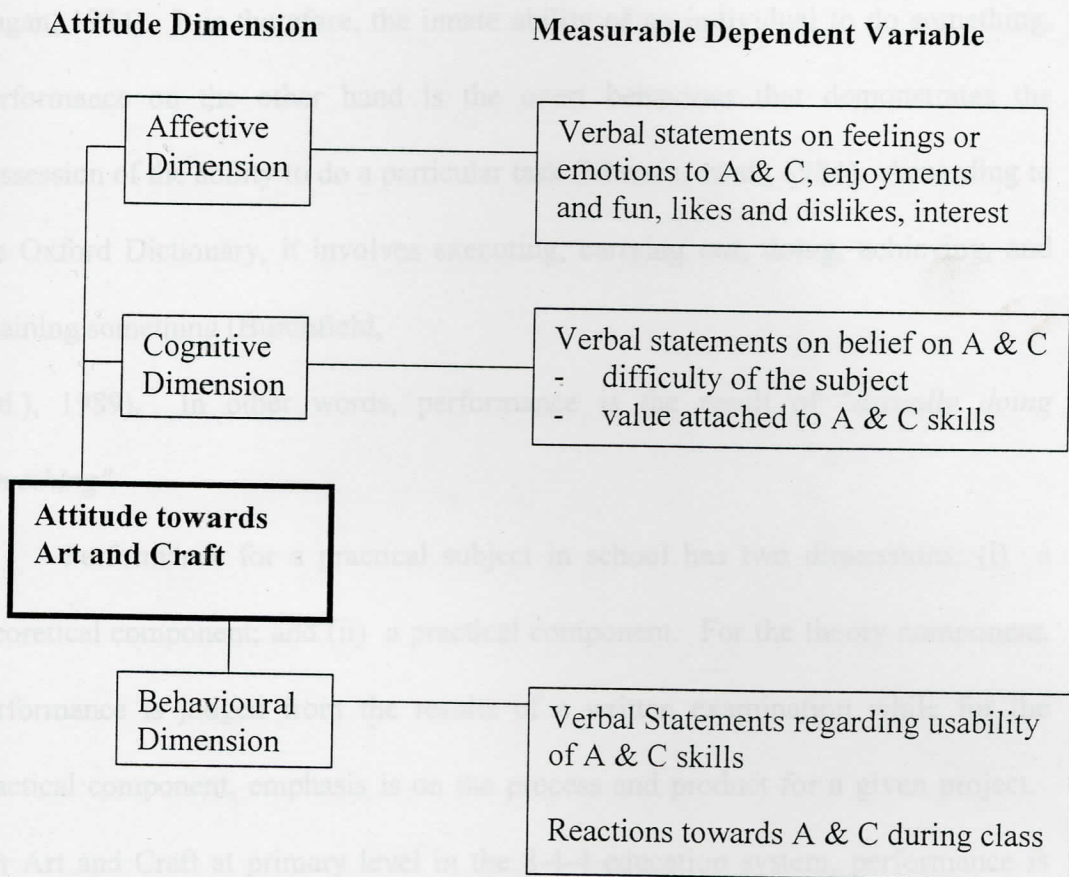
charges the idea, and finally, a behavioural component, that is, a predisposition to action, such as using or buying the object of attitude. Other scholars, including Rokeach (1976), concur with Triandis with regard to the three components of attitudes.

Attitudes therefore, involve what people think about, feel, and how they would choose to behave toward an object (Triandis, 1971). They are inferred from what a person says about an attitude object, from the way he feels about it, and from the way he says he would behave. It is important to note that sometimes behaviour is not only determined by what people would like to do, but also what they think they should do, that is, the social norms, their habits, and by the expected consequences of the behaviour (Triandis, 1971).

The three attitude components were taken into account in the preparation of the attitude scale used to measure pupils' attitudes towards Art and Craft (see Appendix D part II). Figure 2.1 is a conceptual presentation of attitudes as used in this study.

Figure 2.1

Conceptual Analysis as used in this Study



2.7.2 Performance

Competence, the major factor underlying performance, can be defined as the *"possession of knowledge and skills to do what is needed"* (Mussen, Conger and Kagan, 1984). It is therefore, the innate ability of an individual to do something. Performance on the other hand is the overt behaviour that demonstrates the possession of the ability to do a particular task (Mussen, et al., 1984). According to the Oxford Dictionary, it involves executing, carrying out, doing, achieving, and attaining something (Burchfield, (Ed.), 1989). In other words, performance is the result of *"actually doing something"*.

Performance for a practical subject in school has two dimensions: (i) a theoretical component; and (ii) a practical component. For the theory component, performance is judged from the results of a written examination while for the practical component, emphasis is on the process and product for a given project. For Art and Craft at primary level in the 8-4-4 education system, performance is demonstrated through:

- the results of the theory (written) KCPE examination at the end of the 8 years, and
- the quality of the practical projects done during the last one or two years of primary education.

Foster (1965), Obura (1981), Schiefelbein and Simons (1981), Eshiwani (1983), and Lauglo (1985) identify factors that influence performance of learners in various subjects in school. Some of those factors are:

- School characteristics: including school resources such as equipment and materials, textbooks, teaching aids, and school administration and management.
- Learner characteristics: including his or her previous school experiences, attitudes towards a given subject, and sometimes gender.
- Teacher attributes: for example, qualifications, attitudes and professional commitment, and
- Socio-economic environment of the learner: for example, rural versus urban and day versus boarding school environments, and home backgrounds.

In their review of research on achievement, Schiefelbein and Simons (1981), quoted by Eshiwani (1983), identify three categories of determinants of school achievements in third world countries. These are: (1) school resources and processes, including class size, text books, school administration and management, library and laboratory facilities, (2) teacher characteristics such as teacher qualifications, experiences, training, teacher-pupil ratio, professional commitment and transfer index; and (3) student traits, including previous school experience and social characteristics (Eshiwani, 1983). Eshiwani himself grouped these factors

into two categories, that is, social and environmental factors and school factors (Eshiwani, 1983). The importance of school factors had also been noted by Postlethwaite (1980). He pointed out that "differences in school facilities would seem to account for differences in achievement" (in Eshiwani, 1983, p. 23).

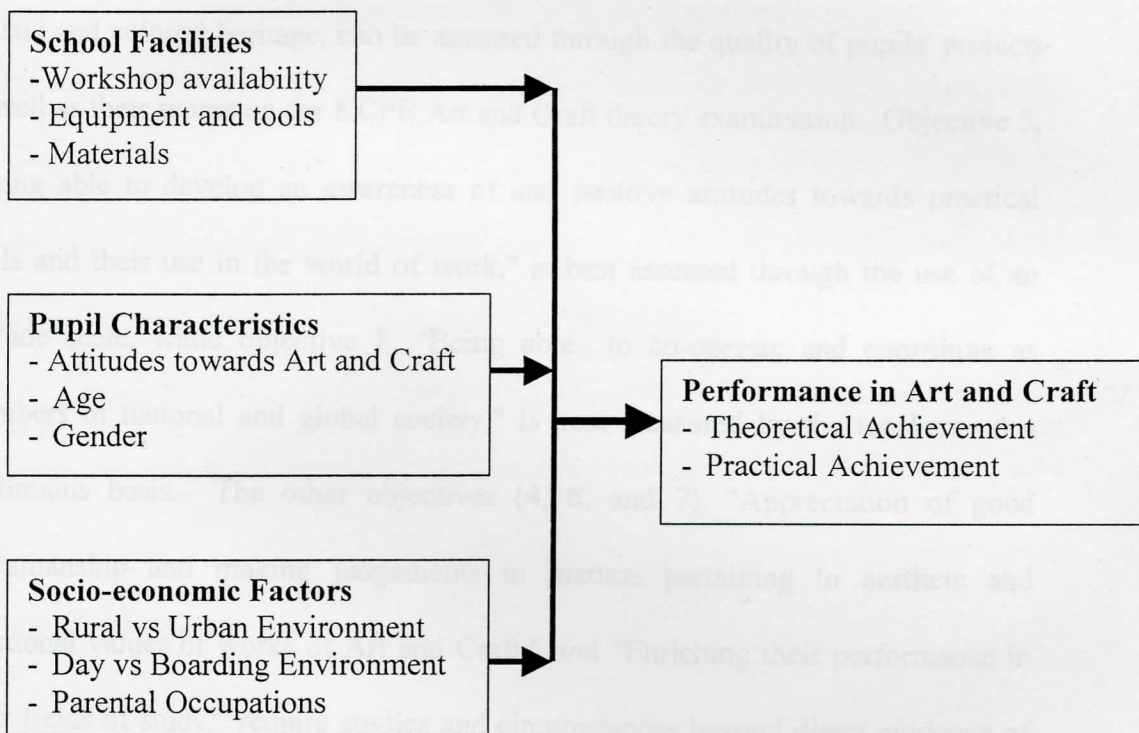
Lauglo (1985) (in the study referred to earlier on industrial education in Kenya) emphasized the effect of inadequate teaching facilities, especially for a practical subject. He observed that there was a danger of a practical subject receiving a theoretical treatment, and consequently, the learners not attaining the desired practical competencies. He cautions that "a purportedly practical subject can easily deteriorate into a pure "practical theory" subject, a parody of what was intended" (p. 146).

This study focuses on selected school characteristics in regard to school facilities, specifically equipment, tools and materials for the teaching of Art and Craft; learner characteristics, specifically the attitudes toward Art and Craft, gender and age; while within the learner's socio-economic environment, the study focuses on rural versus urban and day versus boarding school environments, as well as parental occupations. Schematically, the relationship between the various variables can be demonstrated as shown in Figure 2.2.

Pupils' performance in Art and Craft is examined in relation to the various variables presented. To assess performance in the subject, the objectives of teaching it in the 8-4-4 education system, as stated in the syllabus document (Republic of Kenya, 1992) must be taken into consideration.

Figure 2.2

Performance in Art and Craft in relation to School Facilities, Pupil Characteristics and Socio-economic Factors



Appendix A gives the objectives of primary education in Kenya, while Appendix B provides the general and specific objectives of teaching Art and Craft.

The first three objectives of Art and Craft, (1) pupils being able to use varied materials and tools creatively, (2) expressing themselves visually and communicating effectively, and (3) appreciating their own and other people's artistic and cultural heritage, can be assessed through the quality of pupils' projects as well as their scores on the KCPE Art and Craft theory examination. Objective 5, "Being able to develop an awareness of and positive attitudes towards practical skills and their use in the world of work," is best assessed through the use of an attitude scale, while objective 8, "Being able to co-operate and contribute as members of national and global society," is best measured by the teachers on a continuous basis. The other objectives (4, 6, and 7), "Appreciation of good craftsmanship and making judgements in matters pertaining to aesthete and functional values of works of Art and Craft," and "Enriching their performance in other fields of study," require studies and circumstances beyond direct evidence of attainment of Art and Craft knowledge, skills and attitudes. This study therefore, is concerned with the first three objectives, as well as objective number 5 of the Art and Craft subject. Following is a discussion on criteria used in assessment of performance in Art and Craft.

Criteria for Assessment of Performance in Art and Craft

Various studies and documents have proposed the aspects of Art and Craft that should be considered in the assessment of performance in the subject. For instance, Kariru (1976) proposes *visual literacy, acquisition of skills, and human development*, as important criteria in assessing art (p. 54). On the other hand, the KIE Art education panel in 1978 proposed *individuality, ability to experiment with new ideas, skills in using materials and tools, and overall impression*, as appropriate criteria for assessment of art education. In addition, Kamau (1979) proposes *subject matter, meaning of content and originality*, as the main criteria for assessing performance in Art and Craft.

From the above proposals and the objectives of the 8-4-4 Art and Craft subject, the following criteria for assessing Art and Craft items/projects were used in this study:

- Interpretation, that is,
 - imagination
 - creativity
 - originality
 - subject matter, and
 - format
- Craftsmanship/workmanship: reflected by
 - refinement and presentation of the article, and
 - overall impression.

- Ability/skills in use of equipment, tools, media and materials and techniques; inferred from the quality of the item produced.

For this study, emphasis was laid on the totality of the quality of the items presented, using the criteria proposed. The various aspects of the criteria therefore contributed to the overall assessment of the items. No attempt was made to isolate the performance within the different categories of the criteria, which is beyond the scope of this study. The Assessment Schedule (Appendix F), used by the CWA and the technical experts panels of assessors in assessing the pupils' Art and Craft projects, was based on the criteria described above.

2.8 Summary of Literature Review

The literature review was presented in five main sections: (1) meaning of prevocational education, (2) traditional African arts and crafts, (3) practical education programmes and related research, (4) research findings on performance, pupils' attitudes towards practical subjects in general and Art and Craft in particular, (5) the conceptual framework for the study. Art and Craft within the 8-4-4 primary school curriculum is considered prevocational by the Ministry of Education, and hence the examination of the meaning of prevocational education.

The literature reviewed emphasized the integration of vocational and academic aspects of education into the general school system. The ultimate goal of prevocational education is therefore to equip pupils with a wide and useful range of

skills; that is, cognitive learning and appropriate attitudes that would bring about a smooth transition from school to the field of work or further education as the case may be. The term practical education was used interchangeably with prevocational education, while diversified education was also considered synonymous with the two terms.

Traditional African arts and crafts in general and those aspects applicable to Embu District, Kenya, in particular, were reviewed to provide a context for the study. According to the authors reviewed, traditional African art was fundamentally functional, that is, it was geared towards a specific utility. There was a wide variety of African art, most of which were produced along gender lines, and in some cases by specialized members of society; for example, smithery, which was practiced by few skilled men. The main method of transmitting knowledge and skills was found to be apprenticeship.

With regard to Embu traditional arts and crafts, these were found to be similar to those in the rest of Africa. Gender and age differentiation in arts and crafts activities were quite strong, while the type of activity predominant in a given area was dictated by the materials available in the locality.

Research on practically oriented education programmes show that attitudes towards the practical aspects of those programmes, for pupils, teachers and the communities, have been instrumental in determining the success of the programmes. These attitudes were found to be predominantly negative most of the time, but in some cases they were found to be positive.

CHAPTER THREE

As regards learners' performance in Art and Craft, there was limited literature specific to the subject at primary level. Consequently, performance in a wider scope of subjects was examined, particularly for art related subjects at both primary and secondary school levels, for example, Art and Design. Factors found to affect performance included: availability and use of teaching and learning facilities, teachers' characteristics including qualifications, commitment, and attitudes, and pupils' characteristics: previous experience and sometimes gender; and socio-economic factors including rural versus urban and day versus boarding school environments, and parental occupations. Finally, a conceptual framework for the study is provided, emanating from the literature reviewed.

² Since the time of the study, Embu District has been divided into two districts, the current Embu District and Mbeere District. Embu District covers mainly the former Ruvyenje Division, while Mbeere District encompasses Makago and most of Gachoka Division. At the time this facts report was compiled, the maps for the new districts were yet to be produced.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Introduction

This chapter contains the following sections: rationale for the area of study, target population, sample size and sampling procedure, data sources, research instruments, pre-testing of the questionnaires, validity and reliability of the instruments, data collection, data analysis and testing of the hypotheses.

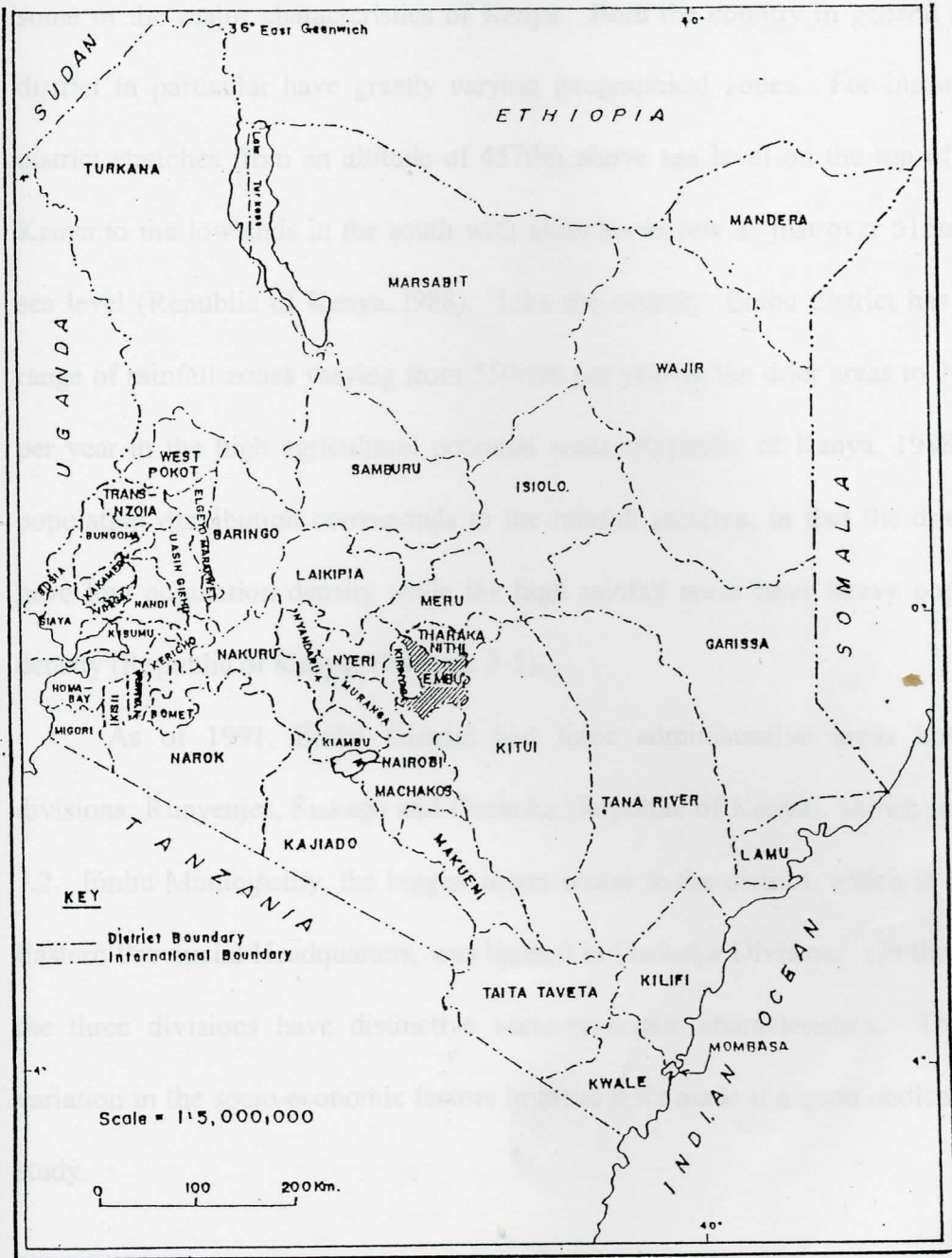
3.2 Rationale for the Area of Study

At the time of the study in 1991, Kenya had slightly over 15,000 primary schools (Ministry of Education, 1992); an area of 564,126 square kilometres (Obara and Ogonda, (Eds.). 1990); and forty-two major ethnic groups. It also had forty six districts within the eight provinces of the Republic. A countrywide study taking the above parameters into consideration would have been unmanageable by one researcher and in terms of time and expense. A case study approach was therefore preferred to enable indepth investigation in a selected part of the country. The study was confined to Embu District² of the Eastern Province of Kenya, whose location in the country is shown in the Figure 3.1.

² Since the time of the study, Embu District has been divided into two districts, the current Embu District and Mbeere District. Embu District covers mainly the former Runyenjes Division, while Mbeere Division encompasses Siakago and most of Gachoka Division. At the time this thesis report was completed, the maps for the new districts were yet to be produced.

Figure 3.1

Location of Embu District in the Map of Kenya



Source: Embu District Development Plan, (1989 – 1993). Republic of Kenya: Ministry of Planning and National Development.

Physically, demographically and economically, Embu District has a cross section of some of the major characteristics of Kenya. Both the country in general and the district in particular have greatly varying geographical zones. For instance, the district stretches from an altitude of 4570m above sea level on the top of Mount Kenya to the lowlands in the south with altitudes as low as just over 515m above sea level (Republic of Kenya, 1988). Like the country, Embu district has a wide range of rainfall zones varying from 550mm per year in the drier areas to 2000mm per year in the high agricultural potential areas (Republic of Kenya, 1988). The population distribution corresponds to the rainfall patterns, in that the drier areas have low population density while the high rainfall areas have heavy population density (Republic of Kenya, 1988, pp. 3-5).

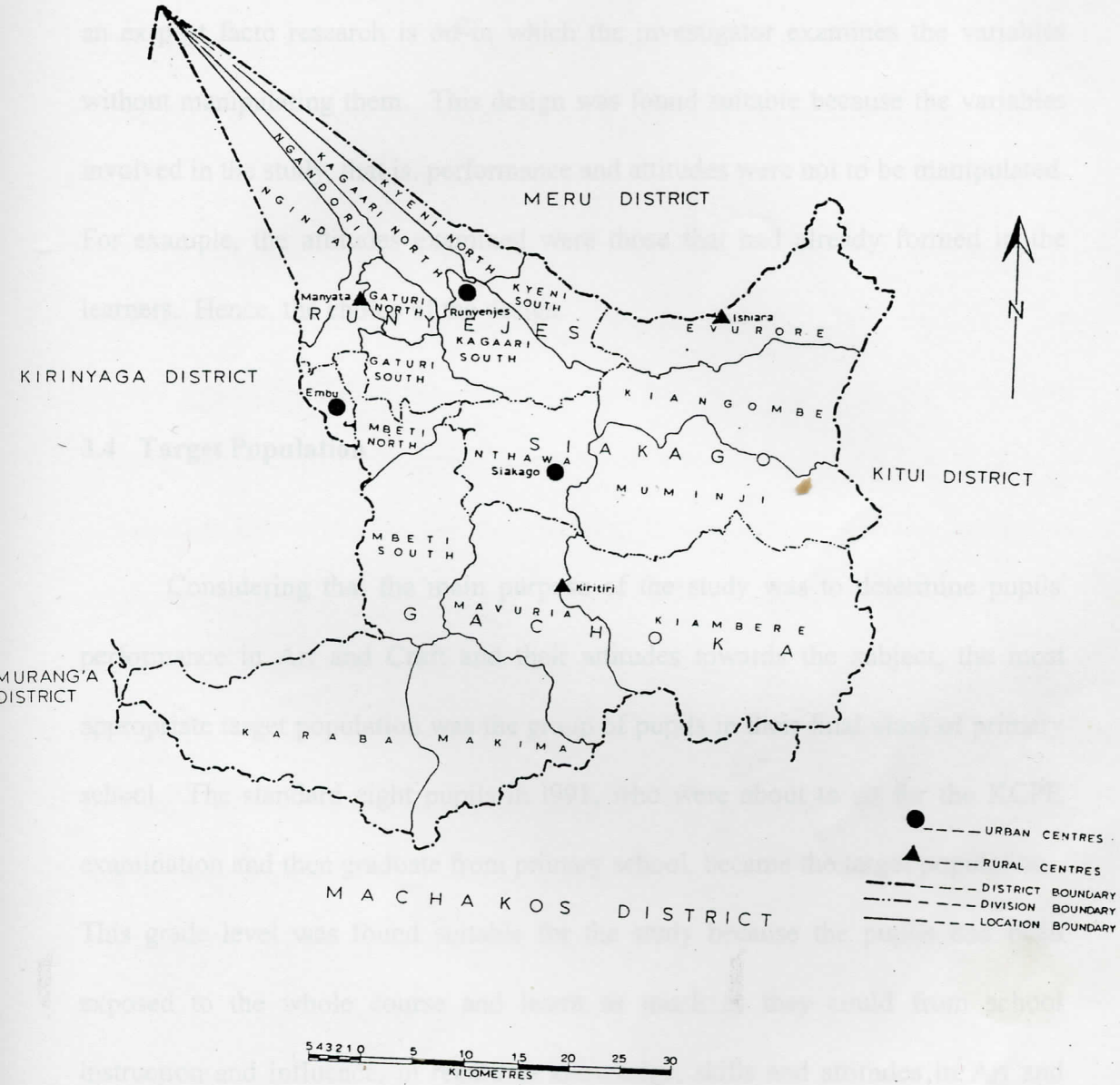
As of 1991, Embu District had three administrative areas known as divisions: Runyenjes, Siakago and Gachoka (Republic of Kenya), shown in Figure 3.2. Embu Municipality, the biggest urban centre in the district, which is also the Eastern Provincial Headquarters, was located in Gachoka Division. On the whole, the three divisions have distinctive socio-economic characteristics. The wide variation in the socio-economic factors in the district made it a good choice for the study.

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Figure 3.2

Embu District Administrative Boundaries



Source: Embu District Development Plan (1989 – 1993). Republic of Kenya: Ministry of Planning and National Development.

3.3. Research Design

The design for this study was ex-post facto. According to Tuckman (1978) an ex-post facto research is one in which the investigator examines the variables without manipulating them. This design was found suitable because the variables involved in the study, that is, performance and attitudes were not to be manipulated. For example, the attitudes examined were those that had already formed in the learners. Hence, the choice of the design.

3.4 Target Population

Considering that the main purpose of the study was to determine pupils' performance in Art and Craft and their attitudes towards the subject, the most appropriate target population was the group of pupils in their final class of primary school. The standard eight pupils in 1991, who were about to sit for the KCPE examination and then graduate from primary school, became the target population. This grade level was found suitable for the study because the pupils had been exposed to the whole course and learnt as much as they could from school instruction and influence, in regard to knowledge, skills and attitudes in Art and Craft. The target pupil population therefore consisted of all the 11,800 standard eight pupils, an average of approximately forty-five (45) pupils per school, in the 261 primary schools of Embu District in 1991 (Ministry of Education, 1992). Most of these pupils, whose average age was fifteen (15) years, were from rural schools,

except for a small number, 120 pupils, who were from urban schools within Embu Municipality. In addition, most of the schools (249) were day, mixed schools, but there were a few boarding schools; that is, twelve (12) out of the 261 schools. Four of the boarding schools were single sex schools, one for boys and three for girls, while eight of them were of mixed gender (Ministry of Education, Embu District, 1991).

Apart from the main focus on pupils' performance and their attitudes, this study also seeks possible explanations of the findings from the teachers. The second target population was therefore the Art and Craft teachers who were teaching the standard eight pupils. These teachers would be in a position to provide information that would explain the problems in the teaching-learning process as they prepared their pupils for the KCPE examination. The standard eight teachers are expected to have taught the subject for a longer period of time and therefore be more knowledgeable in the subject than other teachers. Each of the 261 schools generally had at least one teacher for Art and Craft in standard eight. The target teacher population was therefore estimated at 261³.

3.5 Sample Size and Sampling Procedure

This section describes the procedure used in sampling, and gives the sample sizes for the schools, pupils and teachers. To determine an appropriate sample size, a table provided by Krejcie and Morgan (1970), Appendix C, was used. The table

³ Some of the larger schools had two or three Art and Craft teachers in standard eight.

gives the required sample sizes for various population sizes. The target population of 11,800 pupils would, from this table, require a sample size of 375 pupils. Assuming that an average class has thirty pupils, 375 pupils should make thirteen average classes and hence thirteen schools.

However, to ensure reasonable representation for all the types of schools and the three administrative divisions in the District which also represent different socio-economic zones, the number of schools was increased to twenty. Stratified random, simple random and purposive sampling methods were used to select the schools that participated in the study. To start with, stratified random sampling method was used to determine the number of sample schools from each of the divisions. Stratified sampling method is generally used in cases where the population is not homogeneous, for example where there are subgroups in the population of different socio-economic status (Borg and Gall 1989). The proportion of each subgroup in relation to the target population is first determined. The proportions obtained are then used to determine the number of subjects for each subgroup in the sample. The method therefore ensures that the subgroups are represented in the sample in the same proportion to their numbers in the population (Borg and Gall, 1989).

The three divisions are of different socio-economic status. For instance, Runyenjes Division is located in the high agricultural potential zone, while Siakago and Gachoka are in the lower potential zone. Both divisions, Siakago and Gachoka, have large areas that are semi-arid. The per capita income is therefore

different in the three divisions, in favour of Runyenjes. In addition, Embu Municipality, the major urban centre in the District, differs socio-economically from the rest of the District. These differences are expected to have an effect on the quality of schools in the respective areas described. Hence, the stratified sampling method was found to be suitable for selecting the schools to be surveyed.

The number of sample schools for each division was calculated using the following formula:

$$n_n = \frac{S_n}{\sum S_n} \times n, \quad \text{where: } n = \text{total sample of schools}$$

S_n = size of stratum, n, or division

$\sum S_n$ = Total population

$\frac{S_n}{\sum S_n}$ = Proportion of stratum to the total population

$\sum S_n$

(Sudman, 1976, p. 43).

The above formula is generally used in determining sample size for various strata in a stratified sample.

Statistics from Embu District show that Gachoka Division, in which the Municipality is located, had the largest number of schools, 97 out of the 261 schools, 37.17 percent of the schools, followed by Runyenjes Division with 36.78 percent of the schools (96 schools), and lastly Siakago Division, with 68 schools (26.05 percent) (Republic of Kenya, 1988; Ministry of Education, 1992). Using the above formula, the number of schools for Gachoka Division from which the pupils were sampled was:

$$n_{\text{Gachoka}} = \frac{37.17}{100} \times 20 = 7.43 \text{ schools.}$$

Similarly, the number of sample schools from Runyenjes worked out to 7.36 while that from Siakago was 5.21 as follows:

$$n_{\text{Runyenjes}} = \frac{36.78}{100} \times 20 = 7.36 \text{ Schools}$$

$$n_{\text{Gachoka}} = \frac{26.05}{100} \times 20 = 5.21 \text{ Schools}$$

To maintain a total of twenty schools while avoiding the fractions, these figures, 7.43, 7.36 and 5.21 were rounded off to eight (8), seven (7) and five (5) schools for Gachoka, Runyenjes and Siakago respectively⁴.

The second stage involved identifying the different categories of schools and the total number for each category in the District. The unique categories were first dealt with purposively. For instance, there was only one "*boys only*" boarding school in the District, that is, St. John's Gaikama in Runyenjes Division, which was purposively selected for the study. The "*girls only*" boarding schools numbered three (3), all from the same division, Runyenjes, and hence, incorporating all of them was considered not useful, since there may not have been any major differences between the three schools. Therefore, it was decided that two out of the three schools would be selected for the study, using the simple random sampling

⁴ This method of rounding off is not the conventional method, but it was the best option in this case, to ensure the number of the sample schools works out to the pre-determined one.

method. It was felt that the gender perspective of teaching and learning Art and Craft would come out more clearly if as many of the few "*girls only*" schools as possible were incorporated in the study. This decision was based on the fact that in the previous education system, girls' schools would have offered home science in place of Art and Craft, while at boys' schools Art and Craft was regularly offered. The mixed schools would also have had Art and Craft offered, mainly for the boys. Hence, the need to focus a bit more on measures the "*girls only*" schools were taking to handle the subject for the first time, and the performance of the pupils in those schools for that subject.

The next category that required special attention was the urban schools in the Municipality, with different catchment areas for pupils. For example, one out of the four schools located within the centre of the Municipality catered primarily for slum children from neighbouring villages, and children from relatively poor backgrounds. Two of the other three schools seemed to cater for children from relatively wealthier backgrounds, while the fourth one catered for children in between the two groups, socio - economically. It was decided that all four urban schools would be incorporated in the study. To select the remaining thirteen (13) schools, the schools already in the sample from each division was subtracted from the total allocation for the division. For example, all the four (4) urban schools were located in Gachoka Division. The remaining four (4) out of the eight (8) schools required for Gachoka were selected using simple random sampling. This process involved the following: (1) Listing of the schools within the division, and

(2) Using the "Table of Random Numbers" (Borg and Gall, 1989, pp. 905-907) to select the schools required. The same procedure was followed for the other two divisions.

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Selection of the actual subjects for the study was done as follows: first, in schools where there was only one standard eight class, all the pupils in that class became subjects for the study. Secondly, in bigger schools with two or more streams, only one class was selected for the study, randomly. Again all the pupils in the selected class participated in the study. Schools from Runyenjes Division generally had larger classes than those in the other two divisions, due to the higher population density. The average class in Runyenjes Division had about forty (40) pupils, whereas in the other two divisions, most of the standard eight (8) classes had 10 - 20 pupils. The total number of pupils from the twenty sampled schools was 500. Table 3.1 presents the number of schools and pupils sampled in the boarding and day categories of schools.

Table 3.1 (a) shows the three categories of boarding schools: "*boys only*," "*girls only*" and "*mixed*" schools, with seventeen (17), sixty (60) and twenty-nine (29) pupils in the sample, respectively. In addition, the table shows that the fifteen (15) day schools in the sample had a total 394 pupils, 172 girls and 222 boys. There were five (5) boarding schools as the table shows. With regard to rural-urban categorization of schools, the former category had sixteen (16) schools and 380 pupils, while the latter had four (4) schools with a total of 120 pupils. Following is the procedure used to sample teachers.

Table 3.1

The Sample of Pupils by School Type and Gender

(a) Boarding Categories

Category	No. of Schools	No. of Girls	No. of Boys	Total No. of Pupils	%
Boys	1	-	17	17	16.0
Girls	2	60	-	60	56.6
Mixed	2	19	10	29	27.4
Total	5	79	27	106	100.0

(b) Boarding versus Day Categorization

Category	No. of Schools	No. of Girls	No. of Boys	Total No. of Pupils	%
Day	15	172	222	394	78.8
Boarding	5	79	27	106	21.2
Total	20	251	249	500	100.0

Using the Krejcie and Morgan Table referred to earlier (Appendix C), the sample of teachers was 155 out of the target population of 261 teachers. Twenty (20) of these teachers were from the schools already sampled, while the remaining 135 teachers were selected through stratified and simple random sampling, in the same way as the number of schools. For example, for Gachoka Division which had 37.17% of schools in the District, the number of sample teachers was calculated as follows:

$$n_{\text{Gachoka}} = \frac{37.17}{100} \times 135 = 50.2 = 50 \text{ teachers.}$$

Similarly, the number of teachers in each of the other two divisions was calculated as shown below:

$$n_{\text{Runyenjes}} = \frac{36.78}{100} \times 135 = 49.65 = 50 \text{ teachers; while}$$

$$n_{\text{Siakago}} = \frac{26.05}{100} \times 135 = 35.17 = 35 \text{ teachers.}$$

Table 3.2 shows the actual sample of teachers who responded to the questionnaire. According to the table, there was a total of thirty two (32) rural schools with fifty four (54) teachers in the sample. The four (4) urban schools had eight (8) teachers, two (2) from each school. These urban schools were large, with two or three streams per school. The discrepancy between the expected (155) and the actual sample for the teachers (62) was due to difficulties experienced during fieldwork, discussed in section 3.10 on data collection.

Table 3.2

The Number of Teachers by School Type

Category	No. of Schools	No. of Teachers	%
Rural	32	54	87.1
Urban	4	8	12.9
Total	36	62	100.0

3.7 Research Instruments

Data was generated using assessment schedules, questionnaires, an attitude scale, and an observation schedule.

(i) Assessment Schedules

In order to determine pupils' level of performance in Art and Craft, both the theory and the practical components of the subject were taken into account. For the

3.6 Data Sources

The information required for this study was collected from three main sources:

- (i) the pupils who completed primary education (standard eight), in November 1991, a sample of 500 pupils;
- (ii) the teachers who taught Art and Craft in standard 8 in Embu District in 1991, a sample of sixty-two (62) teachers; and
- (iii) records kept about the implementation, teaching and examining Art and

Craft in Embu District Education Office and the Ministry of Education in Nairobi. Some of the records were the Continuous Work Assessment, (CWA), scores for the 1991 standard eight pupils in Art and Craft, and the KCPE theory Art and Craft results from the Kenya National Examinations Council.

3.7 Research Instruments

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(a) Assessment Schedules

In order to determine pupils' level of performance in Art and Craft, both the theory and the practical components of the subject were taken into account. For the

theory component, the 1991 KCPE Art and Craft examination was adopted as a valid and reliable instrument to measure the level of performance. A copy of the examination is shown in Appendix G. It was assumed that since the examination had been administered for the previous six (6) years by the Kenya National Examinations Council, its validity and reliability must have been tested and accepted. The KCPE Art and Craft examination paper consisted of thirty (30) multiple choice items. Twenty (20) of the items were based on the Art component while the other ten (10) covered the Craft part of the syllabus. Candidates were provided with computer answer sheets in which they indicated their choices of the correct answers.

For the practical aspect, the assessment schedule (Appendix F) used by the Ministry of Education, Inspectorate Section, was adopted for the study. The schedule is used to assess practical projects handed in for examination by the standard eight pupils at the end of the primary cycle, and just before the theory examinations begin. This instrument provided the assessment criteria for projects in the craft as well as the art sections of the syllabus. The craft projects were in metal work and woodwork, both constituting 50 marks. On the other hand, the art component consisted of three (3) projects: Painting, Sculpture/Pottery, and Graphic design. These projects were assessed out of 100 marks. This schedule had been used with minor modifications from year to year, since the introduction of the 8-4-4 programme. The instrument was therefore, also considered to be valid and reliable.

(b) Questionnaires:

(i) Pupils Questionnaire

A pupils' questionnaire (Appendix D), was used to solicit information with regard to demographic and background variables and the mode of learning in Art and Craft. The questionnaire items were formulated by the researcher based on the objectives of the study, with the assistance of the supervisors. A questionnaire for pupils was preferred to other instruments such as interview schedule because the instrument would facilitate a lot of information being obtained in a relatively short time. It was also more economical than using an interview schedule, considering the large number of pupils in the sample.

The questionnaire was divided into three (3) parts. Part I, which had four (4) items, focussed on the demographic information, gender and age of the pupils, parental occupations, as well as the pupil's KCPE index numbers, to facilitate obtaining the theory scores after the examinations later in the year. Some of the data solicited was qualitative while the rest was quantitative. Part II was the Likert Scale with twenty (20) items, while part III centered on the pupils' assessment of the factors affecting the teaching - learning process for Art and Craft. There were three main items in this section. Part IV, which contained six items, sought information on the pupils' aspirations and views with regard to further education and possible application of their knowledge and skills in Art and Craft.

(ii) Teachers' Questionnaire

This questionnaire was designed to solicit information on teachers' demographic and background variables, qualifications and experience in teaching Art and Craft. The same questionnaire also provided for teachers' responses regarding the curriculum and its implementation in schools, and the extent to which their schools were equipped to offer Art and Craft. The first part of the questionnaire contained 10 items, while the second part on curriculum implementation contained 19 items. As with the pupils' questionnaire, some of the data solicited for was qualitative while the rest was quantitative. The questionnaire was found appropriate because, as with the pupils, it could provide a lot of information economically and in a short period of time.

(c) Attitude Scale

To assess pupils' attitudes towards Art and Craft, a Likert-type attitude scale was used. The scale was incorporated into the questionnaire (part II, Appendix D), for ease of administration. It was also constructed by the researcher with the assistance of the supervisors, and reviewed by a psychologist in the Faculty.

As explained in Chapter Two, the Likert scale instrument contained items that focussed on various dimensions of attitudes, the affective, the cognitive and the behavioural dimensions. For example, the affective dimension included items that addressed issues of feelings towards the subject; the cognitive dimension in turn

addressed items such as difficulty or value attached to the subject; while the behavioural dimension focussed on issues such as usability of Art and Craft skills.

In using a Likert-type scale, subjects were asked to respond to each item in the instrument in terms of a five-point scale defined by the labels: strongly agree, agree, undecided, disagree, and strongly disagree (Borg and Gall, 1989). A Likert-type scale was preferred to other types of attitude test scales because generally, it has been found to be quite reliable and in many cases superior to the others, such as the Thurstone-type scale, in which the subject expresses agreement or disagreement with a series of statements about the attitude object (Borg and Gall, 1989).

(d) Observation Schedule

An observation schedule (Appendix H) was used to record the availability and state of the workshops, tools, equipment and materials. The recording was done by the technical experts who participated in the study, assisted by the researcher. The data obtained was used to confirm information from the teachers on physical facilities for Art and Craft in the schools.

In addition to the use of the above instruments, unstructured interviews were held with the national inspectors of schools for two prevocational subjects, Art and Craft and Agriculture. The interviews focussed on the preparations put in place for the implementation of the 8-4-4 curriculum, particularly in the area of Art and Craft. These preparations were mainly in relation to teaching facilities and resources, as well as training of teachers, especially the in-service component.

3.8 Pre-testing of the Questionnaires and the Attitude Scale

Pre-testing was carried out in four (4) schools, three of which were located in Kiambu district, while the fourth one was a Nairobi City Council school, to represent the various categories of schools under investigation, that is, day, boarding, rural and urban. Two of the Kiambu schools were selected because of their rural nature, which is similar to that of most of the schools in Embu District, while the third school was a boarding one, similar to the boarding schools in the District. The Council school was selected because its population had characteristics similar to those of the urban schools' population in Embu Municipality. One standard eight class from each school was used for administering the questionnaires in a classroom setting, similar to that which was used during the final field work. The exercise was completed in a period of two weeks.

For an ~~exp~~-post facto study design, a minimum of thirty (30) respondents is recommended (Roscoe, 1975). Hence, about ten (10) pupils from each school participated in the pilot study. A total of thirty seven (37) pupils, nineteen (19) girls and eighteen (18) boys, completed the questionnaires. The small number of pupils, ten (10) per school and a total of thirty seven (37), was used for the pre-test to ensure manageability of the exercise and to facilitate faster analysis of the data obtained. Only those teachers who taught Art and Craft in standard eight in the

selected schools participated in the exercise. A total of six (6) teachers' questionnaires were completed.

The purpose of pre-testing the questionnaires and the attitude scale was to assist the researcher in identifying ambiguities and difficult terms and phrases encountered by the respondents; secondly, to facilitate the estimation of the reliability coefficient for the attitude scales. During the exercise, the pupils and the teachers were encouraged to ask questions and the meaning of the statements they could not understand, as they completed the questionnaires.

Revision of the questionnaires and attitude scales was then undertaken, replacing the identified ambiguous and unfamiliar terms and phrases. The changes made were however, very few, in both the questionnaires and the attitude scales.

3.9 Validity and Reliability of the Research Instruments

(a) Questionnaires

(i) Pupils' Questionnaire

The initial draft was first critiqued by a senior member of the Department of Educational Administration and Planning, Nairobi University, who was well grounded in the area of evaluation research and practical education. From the comments, revisions were made and a second draft done, which was again critiqued by two other experienced researchers within the faculty.

In addition, two other officers from the Ministry of Education also examined the instruments, and made contributions on the content of the items with regard to their suitability for the subjects in the study, both pupils and teachers. One of them was an Officer in charge of practical examinations at the Kenya National Examinations Council, while the second one was the Officer in charge of Art and Craft in the Ministry of Education, Inspectorate Section. These officers gave very valuable comments on the clarity and appropriateness of the items in the questionnaire.

(ii) **Teachers' Questionnaire**

The same procedure described for the pupils' questionnaire was followed in validating the teachers' questionnaire. That is, the same faculty members (researchers) and education officers discussed above examined this questionnaire, and appropriate amendments were made.

(b) **Attitude Scale**

The attitude scale for the pupils was also examined critically by the members of the faculty of Education, University of Nairobi, who had examined the questionnaires. One of those faculty members was an experienced educational psychologist, whose comments were very valuable in the improvement of the attitude scales.

To determine the reliability of the attitude scale (Appendix D part II), the *split - half technique* was used. The technique involves splitting the instrument into two halves, scoring them separately, and determining the correlation coefficient (r) between the two sets of scores (Best, 1989; Roscoe, 1975). The *Spearman - Brown prophesy formula* is then used to compensate for the reduction of the instrument to one - half of its final length. The reliability coefficient (r_e) for the full test is given by the formula:

$$r_e = \frac{2r}{1+r} \quad \text{where } r = \text{correlation coefficient between the two halves.}$$

The approach taken was the odd - even approach, where the odd - numbered items constituted the first half while the even - numbered items were treated as the alternate half. The correlation coefficient (r) was calculated from the formula:

$$r = \frac{\sum XY}{(\sum X^2 \sum Y^2)^{1/2}}$$

where:

X represents odd-numbered scores

Y represents even-numbered scores

$\sum X^2$ = the sum of the \bar{X} subtracted from each

X score squared $(X - \bar{X})^2$

$\sum Y^2$ = the sum of the \bar{Y} subtracted from each

Y score squared $(Y - \bar{Y})^2$

$\sum XY$ = the cross - products of the mean

subtracted from that score, $(X - \bar{X})$

$(Y - \bar{Y})$. (Best, 1989, p. 249).

For the pupils' questionnaire, the split - half reliability coefficient was determined from the results of the pilot study. The number of pupils who completed the questionnaires (N) was thirty-seven (37), as noted earlier.

The correlation coefficient

$$r = \frac{665}{\sqrt{1069 \times 1043}}$$

$$r = 0.63$$

Thus, the reliability coefficient, $r_e = \frac{2r}{1+r}$

$$= \frac{1.26}{1.63} = 0.77$$

Given that the value of the correlation coefficient ranges from 0 - 1, the r_e value of 0.77 is significant and therefore, the instrument was considered reliable.

(c) Assessment Schedules

The assessment schedules on performance, the 1991 KCPE Art and Craft theory examination and the CWA assessment schedule from the Ministry of Education, were assumed to be valid and reliable, as mentioned earlier, since they have been tested and verified by a competent examinations body, the Kenya National Examinations Council. KNEC is the main examinations body in the country.

3.10 Operationalization of the Variables in the Study

The variables examined in this study are as follows:

(i) Dependent Variables:

- Pupils' performance in Art and Craft
- Pupils' attitudes towards Art and Craft.

(ii) Independent Variables:

- Extent to which schools are equipped to offer Art and Craft
- Pupils' gender
- Selected socio - economic and environmental factors, namely; rural versus urban school environments, boarding versus day school environments, and parental occupations.

Following are operational definitions for some of these variables as used in this study:

3.10.1 Pupils' Performance in Art and Craft

There are two aspects of learning Art and Craft: the theory and the practical aspects. The theory scores obtained by the pupils in the 1991 KCPE Art and Craft Examination were taken as one measure of the achieved performance in the subject. On the other hand, the practical aspect was measured through assessing the practical projects the pupils had submitted for examination by the Inspectorate, Ministry of Education. The assessment schedule (Appendix F) used by the Inspectorate for the 1991 practical projects was adopted by the technical experts deployed in the study as research assistants, for their own assessment. The art projects were assessed separately from the crafts; each project was scored out of 50 marks. The marks were then added together, giving a maximum of 100 marks. Using the Kenya National Examinations Council grading system, the marks obtained were assigned grades A - E.

Following are the marks equivalent for each letter grade:

<u>Marks</u>	<u>Grade</u>
80 - 100	A
60 - 79	B
50 - 59	C
40 - 49	D
0 - 39	E

3.10.2 Practical Assessment

There were two sets of marks considered for the practical work: one set from the Ministry of Education assessment panels, referred to as the Continuum

The letter grades indicate the level of performance as follows:

A = Excellent performance

B = Good performance

C = Average performance

D = Poor performance

E = Fail.

To minimize the categories for ease of analysis, the A and B categories were combined into one category, the "above average" group, the C grade remained on its own as the "average" category, while the D and E grades constituted the "below average" category. The other important reason for combining the letter grade categories was that the scores for Continuous Work Assessment by the ministry of Education were such that no pupil obtained a D or an E grade. It was therefore, found logical to combine the categories. Thus, the marks equivalent for the combined performance groupings are:

<u>Marks</u>	<u>Performance Category</u>
60 - 100	Above Average
50 - 59	Average
0 - 49	Below Average.

3.10.2 Practical Assessment

There were two sets of marks considered for the practical work: one set from the Ministry of Education assessment panels, referred to as the Continuous

Work Assessment (CWA) scores, while the other set was provided by technical experts who participated in the study as research assistants. These two sets of scores were compared with each other, and later treated separately for further analysis and discussion due to the variance noted between the two sets.

To obtain performance scores, all the aspects of the practical projects were assigned a maximum percentage score, designating acceptable performance. Scores obtained for the different aspects were added to give the total score for each pupil.

3.10.3 Attitudes

To obtain attitudes scores from the Likert scale items, it was recognized that half of the items, ten (10) out of the twenty (20), were written in a positive form and the others in a negative form. The positive items were scored by the following key:

Strongly Agree (SA) = 5 points

Agree (A) = 4 points

Undecided (U) = 3 points

Disagree (D) = 2 points

Strongly Disagree (SD) = 1 point.

For the negative items, the key was reversed so that

Strongly Agree (SA) = 1 point

Agree (A) = 2 points

Undecided (U) = 3 points

Disagree (D) = 4 points

Strongly Disagree (SD) = 5 points.

Reversing the scoring of the negative items has the advantage of reflecting positiveness toward the object in question. The scores were then added for all the items to give a measure of the attitude of the pupil or the teacher.

The maximum score possible was therefore 5 points per item x 20 items = 100 points, representing extremely positive attitudes. On the other hand, the lowest score was equal to 20, that is, 1 point per item x 20 items, representing perfectly negative attitudes. A perfectly neutral attitude level was represented by a score of 60, that is, 3 x 20.

Attitudes were therefore classified as positive, neutral, or negative. The attitude scores for the various ratings were as follows:

<u>Score</u>	<u>Attitude Rating</u>
20 - 59	- Negative (N)
60	- Neutral (Ne)
61 - 100	- Positive (P)

3.10.4 Extent to which Schools were Equipped

The extent to which schools were equipped was categorized on the basis of the equipment available in a school compared to the equipment recommended. Information regarding school equipment was provided by teachers who were asked to list all the equipment available in their schools, and what the ideal number would be (see the teachers' questionnaire, Appendix E). The teachers' information was verified by the researcher and the technical experts by examining the workshops

(where available) and/or the stores for the equipment, using the observation schedule (Appendix H).

The data obtained from each school was then compared to the recommendations from the Ministry of Education regarding the required equipment and tools in a school, shown in Appendix K. The equipment and tools for various aspects of Art and Craft are shown in that Appendix, which also gives the numbers recommended for a class of forty (40) pupils. The information given shows that the minimum number of most items should allow for sharing between five (5) pupils in a group during practical work; hence, the recommendation of eight (8) sets for each type of item, for a class of forty (40) pupils as shown in the Appendix K.

By comparing the recommended list (Appendix K) with the available equipment and tools in the schools, several categories regarding the extent to which schools were equipped emerged, as follows:

- (i) "*Sufficient*" category: This category represents a school with the recommended equipment, that is, allowing for sharing between five (5) pupils per group during practicals.
- (ii) "*Very many*" category: This refers to a situation where the school had more than the recommended minimum number of equipment. For example, instead of sharing one (1) brush between five (5) pupils, such a school would even have a brush per pupil.
- (iii) "*A few*" category refers to a situation where the equipment available would just enable the teacher to carry out demonstration lessons, or have

large groups of at least ten (10) pupils to share one piece of equipment.

(iv) "*Very few*" category refers to a situation where whatever equipment is available does not help the teacher and the pupils carry out any meaningful practical work; for example, one or two saws in a school.

(v) "*None*" category refers to a situation where a school was found with no equipment or tools.

For the purpose of this study, these categories were further re-grouped into three, merging the first and second categories, as well as the fourth and fifth categories. The re-grouped categories are:

(i) Very many/sufficient

(ii) A few

(iii) Very few or none.

"*Very many*" and "*Sufficient*" categories were merged because in both cases, pupils could participate in practical work. On the other hand, "*Very few*" and "*none*" categories were merged because in both cases, pupils could not engage in practical work which would facilitate effective teaching and learning, without a great deal of improvisation.

3.11 Data Collection

Data collection for this study was carried out during the month of October and the first week of November, 1991. The timing was appropriate for two reasons. First, many of the schools had completed their course work, and pupils were concentrating on preparations for the KCPE examination, which was to be held between 13th and 16th November, 1991. Secondly, assessment of the pupils' practical projects by the Ministry of Education, which was aimed at giving an indication of the pupils' level of performance for the practical component, was done during the month of September. The researcher had to give priority to the Ministry to do their assessment first, given the importance of that national exercise. The assessment of the projects was therefore started immediately after the Ministry officials completed their work, in October 1991.

The pupils' questionnaires were administered in the classrooms by the researcher. A total of 500 questionnaires were completed. On the other hand, teachers' questionnaires were issued to the teachers, who were then given about two weeks to respond. It became necessary however to visit most of the schools several times before teachers would complete the questionnaires. Those who failed to complete their questionnaires by the time schools closed were given self-addressed and stamped envelopes to mail them to the researcher. The return rate was quite low initially, and this was attributed to the busy schedules for many of the teachers who were preparing their pupils for the KCPE examinations. The schools then

closed for the Christmas holidays, making follow-up possible only during the beginning of the following year, (January, 1992). This was further complicated by several problems including transfers for some teachers and the limited financial resources for the project. A total of 62 questionnaires were completed.

Assessment of the practical projects were carried out by two technical experts (research assistants), one for art projects and the other one for craft projects. The scores obtained were recorded in the assessment forms explained earlier, a copy of which is shown in Appendix F. The Ministry of Education Continuous Assessment Scores (CWA) were obtained thereafter from the District Education Offices in Embu. Finally, the theory scores were obtained from KNEC in the month of March 1992, after the announcement of the results and admissions to secondary schools were completed. This timing was an attempt to avoid interference with those national exercises, the administration of the KCPE examination and the release of the examination results.

Some of the problems experienced in data collection included the following: First, some of the scores for the theory and the CWA assessments for the pupils who had completed the questionnaires were found to be missing from the available records. Secondly, some project items for the practical assessment were also found missing for some of the sampled pupils. These problems had been anticipated given the ex-post-facto nature of the research design used in this study.

3.12 Data Analysis

The first step in the data analysis process was sorting out the questionnaires, to identify those that were properly completed. Secondly, the three sets of scores; theory, CWA, and TE scores were marched with the questionnaires that were selected from the sorting out process; it was important that the data from the different sources was available for the pupils whose questionnaires were to be analyzed. Given the problems mentioned in the previous section, the questionnaires that were finally used worked out to 408.

Data from the questionnaires consisted of both qualitative and quantitative data. The qualitative data from the open-ended questions was first coded to enable quantitative analysis. The coded data and the quantitative data were then analyzed using descriptive statistics. The statistics calculated were frequencies and percentages, as well as means, modes and standard deviations, in order to determine the average scores and the variance for each set of scores for the sample.

To test hypothesis 1 (H_1): "there is a significant relationship between the pupils' theory performance in Art and Craft and the extent to which schools are equipped to offer the subject", the chi-square test was used. The chi-square test is generally used to establish whether there is a difference between obtained frequencies and expected frequencies for two or more independent samples. By inference, the test was able to establish if the frequency distributions were related significantly.

To determine the chi-square values, the data was first put into categories.

Cross-tabulation was then performed for the various performance levels: "above average", "average" and "below average", with the various independent variables such as adequacy of teaching and learning facilities. For the contingency tables that resulted, the chi-square values were determined from the following formula:

$$\chi^2 = \sum \frac{(O - E)^2}{N}$$

where: O = the observed frequency

E = the expected frequency.

The expected frequencies were calculated from the contingency tables from the formula:

$$E_i = \frac{(c_i r_i)}{N}$$

where: c_i = frequency in a respective column marginal

r_i = frequency in a respective row marginal

N = Total number of valid cases.

(Nie, et al., 1975, p. 223).

The chi-square values obtained were compared with the critical values for the relevant number of degrees of freedom, to establish if they were statistically

significant. The number of degrees of freedom were calculated from the formula:

$$df = (n_1 - 1)(n_2 - 1);$$

where: n_1 = number of rows; and

n_2 = number of columns

(Evans, 1992).

If the obtained value is greater than the critical value, then a significant relationship exists between the variables in question.

The other hypotheses tested through the use of the chi-square test were H_2 , $H_9 - H_{12}$ and $H_{16} - H_{17}$. These hypotheses involved three (3) or more groups of data for each of the variables, hence, the statistic was appropriate.

To determine the strength of the relationship, the Cramer's measure of association was used. The value of Cramer's Statistic ranges from "0" to "1", where "0" indicates that the two variables are not related, while "1" represents a perfect relationship between the variables (Evans, 1992). The extent of a relationship is determined from the following scale:

0.1 - 0.2	-	weak relationship
0.3	-	slight relationship
0.4	-	moderate relationship
0.5 and above	-	strong relationship

Values less than 0.1 indicate that the relationship is not important.

(Nie, et al. 1975).

The Cramers statistic is calculated from the following formula:

$$\text{Cramers Value} = \frac{\chi^2}{N(L-1)}$$

Where N = Population

L = No. of cells in each column or row,
whichever is smaller.

(Roscoe, 1975, p. 261)

All the other hypotheses, that is, $H_3 - H_8$ and $H_{13} - H_{15}$, were tested using the "t" statistic. This is because all of them were seeking to establish whether there was any significant difference in the stated variables, performance and attitudes, for two different groups of pupils in each case. The t-value is obtained from the following formula:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{(s.d_1^2/N_1 + s.d_2^2/N_2)^{1/2}}$$

where:

\bar{X}_1 = Mean score in the performance of the first group

\bar{X}_2 = Mean score for the second group

s.d₁ = Standard deviation for the first set of scores

s.d₂ = Standard deviation for the second set of scores

(Borg and Gall, 1989; Prewitt, 1974).

To facilitate interpretation of the t-value obtained, it is important to determine the number of degrees of freedom (df) for a particular situation. For a t-test for difference between independent means, the number of degrees of freedom is calculated from the formula:

$$df = (n_1 - 1) + (n_2 - 1) = n_1 + n_2 - 2;$$

where: n_1 = number of cases in the first sample, and

n_2 = number of cases in the second sample

(Evans, 1992, p. 198).

The t-value obtained is compared with the critical t-value for the same number of degrees of freedom, at a given level of significance, say 0.05, in order to accept or reject the hypothesis being tested. Due to the volume of data and the nature of the statistics required, the Statistical Package for Social Sciences (SPSS) computer programme was used.

3.13 Summary of Methodology

In this chapter, the methodology for the study was presented and discussed. A two-stage stratified probability sampling procedure was employed. To start with, a sample of schools was selected, followed by a second stage where pupils and teachers were selected, mainly through simple random sampling. In some

instances, purposive random sampling procedure was used to ensure special categories of schools, such as "boys only" boarding schools, were included in the sample. A total of 36 schools, 500 pupils (249 boys and 251 girls), and 62 teachers were used in the study.

The key data sources consisted of the standard eight pupils, teachers who taught Art and Craft in standard eight, and results for the assessment of Art and Craft for both the theory, (KCPE), and the practical components. The instruments used for data collection were: pupils' questionnaire, teachers' questionnaire, Likert-type attitude scale for pupils, an assessment schedule for the practical projects, and an observation schedule for Art and Craft facilities in the school.

Descriptive and inferential statistics were used in the analysis of the data. Specifically, the chi-square test was used to establish the relationships between the various variables in hypotheses H_1 and H_2 , $H_9 - H_{12}$ and $H_{16} - H_{17}$. To test for significant differences in the variable stated in hypotheses $H_3 - H_8$ and $H_{13} - H_{15}$, the t-test was used.

CHAPTER FOUR

4.0 FINDINGS OF THE STUDY

4.1 Introduction

This chapter presents the findings, beginning with the demographic and other general information on the pupils and teachers who participated in the study. Secondly, the findings on pupils' performance in Art and Craft in relation to the various independent variables mentioned in Chapter One are presented and discussed. This is followed by findings on pupils' attitudes towards Art and Craft. Finally, the problems affecting the teaching and learning of the Art and Craft subject are presented.

4.2 General Information on the Pupils

4.2.1 Age and Gender

A sample of 408 pupils was used in the study from twenty (20) schools in the District. The gender composition of the pupils was such that there were slightly more females than males, that is, 205 girls (50.2 percent) against 203 boys (49.8 percent). With regard to the age of the pupils, the range was between thirteen (13) and twenty-one (21) years, with a mean of fifteen (15) years. Thus, a few of the pupils, twenty-four (24) of them, were fairly young at thirteen years, while nine

pupils were found to be too old for primary schooling, between eighteen (18) and twenty-one (21) years of age. The distribution of the pupils' age against gender is shown in Table 4.1.

The table shows that the majority of the pupils, 59.3 percent, were aged between fifteen (15) and sixteen (16) years, while about eighteen (18) percent were seventeen (17) years of age and above. Thus, most of the pupils were within the expected age for standard eight in Kenya, allowing for repetition in some cases.

4.2.2 Sample of Pupils from Different School Settings

Out of the sample of 20 schools from which pupils were selected, four (4) of them were from the urban environment while the remaining sixteen (16) were from rural areas. The total number of pupils in the urban and rural settings was ninety-nine (99) and 309, respectively. Additionally, there were 322 pupils in fifteen (15) day schools, while the five (5) boarding schools in the sample had 86 pupils.

4.2.3 Parents' Occupations

The pupils were asked to indicate their parents' occupations, which provided some explanations for their performance and attitudes towards Art and Craft. The occupations were then categorized into four (4) groups, for both the fathers and the

Table 4.1

Age and Gender Distribution of the Pupils

Age Category (Years)	No. of	No. of	Total	%
	Males	Females		
13 - 14	38	55	93	22.8
15 - 16	122	120	242	59.3
≥ 17	43	30	73	17.9
Total	203	205	408	100.0

mothers. For fathers, the categories were peasant farmers, businessmen, professionals and artisans. For the mothers, the categories comprised of peasant farmers, business-women, professionals and housewives.

The categorization of the parents' occupations was roughly based on the expected educational level of the parents. It was assumed that "professionals" such as teachers and lawyers, would have had more education than the other categories, although data on the education of parents was not solicited. In addition, it was expected that there were parents who had more than one occupation, for example, professionals who were also part-time farmers. However, the focus was on the main activity that the parent was engaged in for most of his/her time. Among the fathers, there were some that were Artisans, but none of the mothers was found to be in that category.

(i) Fathers' Occupations

The results from the questionnaires on the fathers' occupations are shown in Table 4.2. These results indicate that a large number of the pupils' fathers, forty-five (45.0) percent, were peasant farmers. This was expected, for Embu District, like other predominantly rural areas of Kenya; the major source of livelihood is peasant farming.

A significant percentage, 29.9%, happened to have been in professions such as teaching, law and medicine, which are considered to be white-collar occupations.

Table 4.2

Occupations of the Pupils' Fathers

Father's Occupation	No. of Pupils	Percentage
Peasant Farmer	184	45.0
Businessman	61	15.0
Professional	122	29.9
Artisan	41	10.1
Total	408	100.0

Only 10.1 percent of the pupils' fathers were artisans, that is, those with jobs that were closely related to Art and Craft, such as carpentry.

(ii) Mothers' Occupations

The results from the item requesting for information on mothers' occupations are given in Table 4.2. As was the case with fathers' occupations, the most common occupation for mothers in the area was peasant farming (37.7 percent), followed by housewives⁵ (26.5 percent).

Those with professional occupations, such as teaching, nursing and secretarial, accounted for 20.1 percent of the sample. Business-women⁶ constituted 15.7 percent of the sample.

4.3 Teachers' Demographic and Other General Information from the Questionnaire

Information solicited from the teachers' questionnaire (see Appendix E) includes gender, marital status, age, professional and academic achievement. A

⁵ A housewife was taken to be one who was dependent on her husband for the provision of the household requirements. Most of her time would be spent on regular household chores.

⁶ Business-woman refers to a woman who spent most of her time selling any kind of goods for the household income. This category includes hawkers.

total of sixty-two (62) teachers completed and returned their questionnaires from a target sample of 155 teachers. This is equivalent to a return rate of 40.8 percent, which is relatively low. The main possible reason for this rate of return may have been the timing of the study. The period for data collection was during the final term of the school year when most of the standard eight teachers were extremely busy preparing pupils for the KCPE examination. Thereafter the schools closed, and it was very difficult to track those teachers who had not yet completed the questionnaires. Although the researcher had left stamped, self-addressed envelopes, the response was still poor after the Christmas holidays. Following is the information from the returned questionnaires on the demographic and other general aspects of the teachers.

4.3.1 Sex and Age of the Teachers

Teachers were requested to indicate their actual age in the questionnaires. The data obtained was then grouped into six (6) categories as shown in Table 4.3, with the minimum age being twenty (20) years and the maximum being fifty (50) years.

It is observed that the majority of the teachers, that is, a total of 66.1 percent, are below 35 years of age while only 8.1 percent of them were above forty-five (45) years. Hence, the teaching force can be described as relatively youthful. Another important observation is that teachers of Art and Craft were predominantly

Table 4.3**Age Distribution for the Teachers by Sex**

Age of Teachers	No. of Males	No. of Females	Total	Percentage
21-25	7	2	9	14.5
26-30	14	2	16	25.8
31-35	14	2	16	25.8
36-40	11	3	14	22.6
41-45	2	-	2	3.2
46-50	5	-	5	8.1
Total	53	9	62	100.0

male. Only nine (9) teachers (14.5 percent) were female compared to fifty-three (53) male teachers (85.5 percent). This situation might be due to the fact that in the previous education system, only males were taught Art and Craft as a subject, while the females were offered Home Science, as pointed out in Chapter Two. Therefore, there would have been more male teachers with interest and the confidence to teach Art and Craft, especially at the standard eight level.

4.3.2 Marital Status

Results on marital status show that most of the teachers, forty-eight (48) of them, (77.4 percent) were married. Only fourteen (14) of them were single.

4.3.3 Academic and Professional Qualifications

Information on the highest academic attainment of the teachers, as well as their professional qualifications, is presented in Table 4.4 and Table 4.5, respectively. To start with, Table 4.4 summarizes the educational status of the teachers.

About 90 percent of the teachers had attained high school education (O-levels), with only 8.1 percent of them at Form II level (KJSE). This fact is tied to the observation that the majority of teachers, 77.4 percent, had PI professional qualifications, as demonstrated by Table 4.5.

Table 4.4

Academic Status of the Teachers

Academic Level	No. of Teachers	Percentage
Approved Graduate	1	1.6
KACE/A level	13	21.0
KCE/O-Level	43	69.3
KJSE	5	8.1
Not stated	1	1.6
Total	62	100.0

Table 4.5

Professional Status of the Teachers

Status	No. of Teachers	Percentage
Approved Graduate	1	1.6
Diploma/SI	5	8.1
P1	48	77.4
P2	4	6.5
Untrained	4	6.5
Total	62	100.0

Most of the Art and Craft teachers in the district, 93.5 percent, were professionally trained, with only 6.5 percent of them being untrained.

4.3.4 Teaching Experience

Information on the amount of experience in the teaching profession and in the teaching of Art and Craft in particular was sought from the teachers. The results are summarised in Table 4.6.

From the table, it is evident that the greater number of teachers, thirty-six (36) out of sixty-two (62), (58.1 percent), had less than five (5) years experience in the teaching of Art and Craft. It is also observed that 62.5 percent of those teachers (25 out of 36) were fairly young in the profession, again with less than five years of experience.

4.4 Findings on Pupils' Performance in Art and Craft

This section presents the findings on performance, as well as discussions related to the first twelve (12) hypotheses of the study on that variable. The possible explanations of the findings are provided within the discussions.

4.4.1 Overall Performance in Art and Craft

Table 4.6

Length of Time in Teaching and Handling Art and Craft

No. of Years	Teaching as a Profession		Teaching of Art and Craft	
	N	%	N	%
1 - 5	25	40.3	36	58.1
6 - 10	15	24.2	20	32.2
11 - 15	8	12.9	2	3.2
16 - 20	13	21.0	4	6.5
21 - 25	1	1.6	-	-
Total	62	100.0	62	100.0

4.4.1 Overall Performance in Art and Craft

Performance in Art and Craft was categorized into theory and practical components. The theory scores were obtained from the results of the KCPE examination for the 1991 Cohort of standard eight pupils. On the other hand, scores for the practical performance were obtained from two sources: the Continuous Work Assessment (CWA) done by the Ministry of Education, and the assessment by the technical experts deployed to assess the practical projects in Art and Craft, specifically for this study. To start with, some descriptive statistics of the three sets of performance results were determined. Table 4.7 summarizes the scores in terms of range, means and standard deviations of the scores.

From Table 4.7, it is evident that there are important differences between the CWA scores on one hand and the TE and theory scores on the other. *The first major* difference observed is that the CWA scores are generally higher than the TE and theory scores, with means of 76.7 percent, 54.9 percent, and 55.3 percent, respectively. The spread of the scores is also different in that the CWA scores are more clustered compared to those of the technical experts and theory scores, with standard deviations of 6.9, 11.3 and 10.3, respectively.

The second analysis for performance of the three sets of data was categorization into five grade levels, A, B, C, D and E, as per the KNEC grading system. These categories were then put into three categories of performance, that

Table 4.7

**Summary of Pupils' Performance for the Three Categories
of Scores: Theory, TE and CWA**

N = 408

Scores	<u>Category</u>		
	Theory	TE	CWA
Maximum			
Score (%)	100	100	100
Highest Score			
Obtained (%)	80.0	83.0	92.0
Minimum			
Score (%)	27.0	26.0	57.0
Mean Score			
(%)	55.3	54.8	76.7
<u>SD</u>	10.3	11.2	6.9

is, "above average," "average" and "below average." Table 4.8 provides the details of that analysis.

Information from the table supports the observation that the CWA scores are generally higher and less spread than the TE and theory scores. For instance, the pupils whose performance was above average for CWA scores amounted to 99.0 percent of the sample, compared to 23.8 percent for TE scores and 39.8 percent for the theory scores. It is noted that no pupil attained a level of performance below average in the CWA assessment, whereas for the TE and theory assessment, up to 31.4 percent and 25.0 percent of the pupils, respectively, were in that category.

From the above analysis, it is appears that the CWA scores may not have been valid because, for such a large sample of pupils the pattern of performance scores is expected to approximate a statistically normal curve (Roscoe, 1975, p. 45).

This was the case for the other two sets of performance data, the theory and the TE scores. Following is a detailed analysis and discussion on the differences between the two sets of the practical scores, the TE and CWA scores.

4.4.2 Differences between CWA and TE Sets of Scores

Table 4.9 gives a detailed summary of the overall scores from the two data sources. The first major difference observed between the two sets of scores is that the CWA scores are generally higher than the TE scores, with means of 76.7

Table 4.8

**Summary of the Theory, TE and CWA Categorized Scores, and
Percentage of Pupils in Each Performance Category**

		<u>No. and % of Pupils in Each Performance Level</u>					
Range of Scores	Performance	Theory		TE		CWA	
		N	%	N	%	N	%
60-100	Above	162	39.7	97	23.8	404	99.0
	Average						
50-59	Average	144	35.3	183	44.8	4	1.0
0-49	Below						
	Average	102	25.0	128	31.4	-	-
Total		408	100.0	408	100.0	408	100.0

Table 4.9

Comparison of TE and CWA Scores

N = 408

Range of Scores	Grade	<u>CWA</u>	<u>TE</u>
		% of Pupils in each Grade	% of Pupils in each Grade
0-39	E	0	8.4
40-49	D	0	23.0
50-59	C	1.0	44.8
60-79	B	62.5	22.8
80-100	A	36.5	1.0
Total		100.0	100.0

<i>Range</i>	57-92	26-83
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<i>Mean Score (M)</i>	76.7	54.9
-----------------------	------	------

<i>SD</i>	6.9	11.3
-----------	-----	------

percent and 54.9 percent, respectively, as pointed out in the previous section. The spread of the scores is also different in that the CWA scores are more clustered than those of the technical experts, with standard deviations of 6.9 and 11.2, respectively, as shown in Table 4.9.

These differences in the scores could be attributed to a variety of possible reasons. First, some of the pupils did not present genuine work. For example, in one of the sample schools, all items for the metal work project were clearly bought from the local market, as assessed by the technical experts. These assessors compared a sample of similar items from the market with those presented by the pupils, before they came to that conclusion. It is expected that if assessors feel that a project item was not genuinely the work of a given pupil, they would disqualify the item. It was evident that the CWA panels did not disqualify such items, given that the items disqualified by the technical experts were scored very highly according to the CWA mark records. This resulted in the higher CWA scores.

Secondly, there may have been differences in the competencies of the two assessment panels. Following is a presentation of the composition of the assessment panels, beginning with the CWA panels.

Information from the Ministry of Education officials associated with Art and Craft revealed that the Continuous Work Assessment (CWA) panels were constituted from among teachers of the subject in the schools. The organization was such that a panel from one educational zone or division would be used to assess pupils from another zone. The use of "outsiders" for assessment was

expected to increase objectivity and hence, validity of the scores obtained. On the other hand, the technical experts were tutors in one of the primary teacher training colleges, in which they trained teachers in Art and Craft. They also had taught Art and Craft at primary school level earlier in their professional careers. In addition, they were examiners with the KNEC for the teachers' examinations in Art and Craft. It is likely that the tutors, who had trained many of the teachers in the field, were more competent than the members of the CWA panels.

Thirdly, it was presumed that probably the CWA panels compromised the expected standards of assessment since they were composed of school teachers who had interests in their own pupils. Perhaps the teachers were lenient with the pupils they were assessing in the hope that those assigned to assess their own pupils would do likewise. On the contrary, the technical experts had no vested interests in the pupils' projects since they were not teaching them and were therefore, likely to be more objective in their assessment compared to the school teachers.

From the foregoing analysis, the CWA scores were, on the whole, considered unreliable and not valid. The scores were therefore, not used for further analyses and discussions of the pupils' performance with regard to the various independent variables for the study. Thus, only the theory and the technical experts' grades were used for this study, with the latter grades providing the performance levels for the practical component of the subject.

The following section presents the findings and discussion on teachers' views on the genuineness of pupils' projects.

4.4.2.1 Genuineness of the Pupils' Practical Projects

One of the aspects examined in practical assessments was whether the projects were genuinely the work of the pupils (see Appendix F). It was therefore, found necessary to obtain teachers' opinions on this issue. To this end, teachers were asked to estimate the percentage of their pupils' projects actually done by the pupils themselves. The responses are summarised in Table 4.10.

Teachers overwhelmingly seemed to think that the work presented for assessment by the pupils from home was often not genuinely done by the pupils themselves. For example, 61.3 percent of the teachers thought that up to 50 percent of the project work might not have been done by the pupils. They had several reasons that led them to this suspicion. The reasons most frequently cited by the teachers are listed in Table 4.11.

In considering the quality of the projects, some teachers argued that in some cases it was the same as that of the local craftspeople. For example, one of the metalwork projects for the 1991 practical assessment was the "*construction of a funnel*". Teachers observed that some of the funnels were similar to those that were sold in the markets. Given the limited time, facilities and expertise on the part of the pupils, they may not have been capable of producing the quality of the presented items, and hence, the suspicion.

With regard to "who" might have been helping the pupils, the teachers suggested parents, elder brothers and sisters, some of the teachers themselves, and

Table 4.10

**Teachers' Opinions on Percentage of Practical
Projects Actually Done by the Pupils**

% of Work	No. of Teachers	Percentage of Teachers
Under 25 %	21	33.9
26 - 50 %	17	27.4
51 - 75 %	8	12.9
Over 75 %	4	6.5
Don't Know	9	14.5
Not Stated	3	4.8
Total	62	100.0

Note. These percentages were teachers' estimates based on the work of a whole class, for all the Art and Craft projects.

Table 4.11

**Teachers' Reasons for Suspecting the Genuineness of
Some of the Pupils' Work**

N = 62

Reason	Frequency	%
1. The quality of work done outside school was often much higher than that of the work done in school	22	35.5
2. Pupils generally lacked the appropriate tools and equipment	15	24.2
3. Lack of time for adequate practice	8	12.9
4. Pupils considered the practical work a waste of time, therefore opted for help	8	12.9
5. Lack of technical knowledge	7	11.3
6. Some projects were too difficult for the level of pupils	6	9.7
7. Too much homework from other subjects	6	9.7

Note. Some teachers gave more than one reason, hence, the total percentage is more than 100.

local craftspeople. In addition, some of the teachers themselves were mentioned as having participated in assisting pupils with their projects. Table 4.12 gives the breakdown of the suggestions.

Use of local craftspeople requires finances since their services must be paid for. Hence, use of the craftspeople was limited to those families that could afford the services. The reasons for suspecting those craftspeople in assisting the pupils were related to the reasons given for suspecting that the projects were not genuine. These reasons include the following:

First, Pupils lacked skills that would enable them prepare items of the required standard. Lack of skills often was a result of pupils not being adequately exposed to the practical aspect of the subject. Thirty-seven (37) teachers, 59.7 percent, gave this reason.

Secondly, there was a general lack of materials and tools. It was found that the raw materials for some projects were not readily available in some localities. Therefore, the only option available to pupils was to buy the items. Ten teachers (16.1 percent) gave this reason.

Thirdly, there was lack of time for practical work. As previously mentioned, the homework assignments in other subjects besides Art and Craft were too many to allow time for the creative activities demanded for Art and Craft. Thus, pupils devised other ways of obtaining the practical projects required for Art and Craft. Ten (10) teachers (16.1 percent) provided this perspective.

Note: Some teachers gave more than one answer, and therefore the percentages work out to more than 100.

Table 4.12

**Teachers' Opinions on Sources of Help for Pupils in
Art and Craft Projects**

N = 62

Persons offering Help	Frequency	Percentage
Parents	40	64.5
Elder Brothers/ Sisters	38	61.3
Professional Craftspeople	35	56.5
Teachers	1	1.6

Note. Some teachers gave more than one answer, and therefore, the percentages work out to more than 100.

Fourthly, some pupils had negative attitudes towards Art and Craft. In this connection, four teachers, (6.5 percent), suggested that negative attitudes towards practical Art and Craft on the part of some pupils may have contributed to their reluctance and ultimate refusal to do the project work.

Finally, some teachers, 6.5 percent of them, claimed that they had observed what was happening within the locality regarding the assessment items. They said that they had instituted investigations for specific cases, for which they had discovered that other people had done the work for the pupils. In some cases, pupils admitted that they had actually bought the items.

The reasons why parents and relatives offered to assist their pupils were that they wished their children well, had their interests at heart, and wanted to assist them to pass their final primary examinations. They wanted their children to present "perfect" work for the assessment through whatever means at the disposal of both the parents and the children.

4.4.3 Pupils' Performance in Art and Craft in Relation to Status of Facilities in Schools

In this section a description of the findings on the status of facilities is first provided. This is followed by relating performance to adequacy of facilities.

Out of the twenty (20) schools in the sample, only three (3) of them, 15.0 percent, were found to have been well equipped. It is also interesting to note that

Status of Facilities in Schools:

The adequacy of facilities in schools was determined using three instruments: first, the teachers' questionnaire (Appendix E), secondly, the pupils' questionnaire (Appendix D), and thirdly, an observation schedule (Appendix H). These instruments were used by the researcher together with the technical experts to indicate the status of the facilities in schools during fieldwork.

Information from the three sources was corroborated, and a classification of the schools emerged. The first category was composed of schools with no facilities at all or had "very few" equipment and tools; the second category consisted of schools with "a few" equipment and tools, which could only allow demonstration lessons or be shared by at least ten (10) pupils during practical sessions. The third category was of well-equipped schools. The well-equipped schools combined those with "sufficient equipment," which could allow sharing for a maximum of 5 pupils per equipment, and schools with "very many" equipment, which had more than the recommended minimum number.

The status of the facilities for teaching Art and Craft in the twenty (20) schools from which the pupils were selected was generally found to have been inadequate. Appendix I details the names of the sample schools and the adequacy of the Art and Craft facilities. A summary of the status of facilities in the schools is provided in Table 4.13.

Out of the twenty (20) schools in the sample, only three (3) of them, 15.0 percent, were found to have been well equipped. It is also interesting to note that

Table 4.13**Categorization of Schools with Regard to Facilities**

Category of School	No. of Schools	Percentage
1: "Very few" equipment and tools/None	10	50.0
2: "A few" equipment and tools	7	35.0
3: "Sufficient/very many" equipment and tools, (well equipped)	3	15.0
Total	20	100.0

two out of the three schools were located in the urban area (as shown in Appendix J), within Embu Municipality. In addition, information from the schools revealed that those schools were assisted financially by a donor agency, the Plan International Organization, in the construction and equipping of the workshops.

The next category of schools with "a few" equipment, constituted 35.0 percent of the sample schools. The rest of the schools, 50.0 percent of the sample, were found to have had very few equipment and tools or none at all. Thus, more than half of the schools sampled were not in a position to carry out practical work using school facilities, and were therefore dependent mainly on improvisation and efforts from the pupils and teachers in tapping resources from their homes and the local environment.

The hypotheses H_1 and H_2 , put forward to establish the relationship between performance and adequacy of facilities are as follows:

H_1 : There is a significant relationship between the pupils' theory performance in Art and Craft and the extent to which schools are equipped.

H_2 : There is a significant relationship between pupils' practical performance in Art and Craft and the extent to which schools are equipped.

Following is an analysis of the findings related to each of these hypotheses.

4.4.3.1 Performance in the Theory Component versus the Extent to which Schools were Equipped

The grouped theory scores within the categories "above average," "average," and "below average" were cross-tabulated against the categorized data on the status of facilities in the schools as shown in the contingency Table 4.14.

To test hypothesis H_1 , that "there is a significant relationship between pupils' theory performance in Art and Craft and the extent to which schools are equipped," the chi-square test was applied. The chi-square value obtained at four (4) degrees of freedom was 38.89, while the critical value of chi-square at 4df is 9.49 at 0.05 level of significance. Since the obtained chi-square value is larger than the critical value, the hypothesis is accepted.

To determine the strength of the relationship, the Cramer's measure of association was used. For this hypothesis, the Cramer's value V is 0.17. This value is very low in the scale of 0 - 1 for the statistic, indicating that the relationship is not strong. Therefore, although facilities for teaching Art and Craft are positively related to performance in the theory examination, this relationship is a weak one.

4.4.3.2 Practical Performance versus the Extent to which Schools were Equipped

The investigation on practical performance with regard to facilities was guided by Hypothesis 2 (H_2), which states that "there is a significant relationship

Table 4.14

**Relationship between Theory Art and Craft
Performance and Status of Facilities in Schools**

Perfor- mance	<u>Status of Equipment and Tools</u>						Total	
	Very Few/ None		A Few		Sufficient/ Very Many		N	%
	N	%	N	%	N	%		
Above								
Average	49	12.0	64	15.7	49	12.0	162	39.7
Average	60	14.7	46	11.3	38	9.3	144	35.3
Below								
Average	65	15.9	34	8.3	3	0.8	102	25.0
Total	174	42.6	144	35.3	90	22.1	408	100

$$\chi^2 (4, N = 408) = 38.89, \underline{P} < .05$$

$$\chi^2_{\text{critical}} (4) = 9.49, \underline{P} < .05$$

Cramer's V value = 0.17.

between pupils' practical performance in Art and Craft and the extent to which schools are equipped." To test this hypothesis, the categorized scores on pupils' performance from the technical experts' assessment were cross-tabulated against the status of the facilities in the schools. The results are shown in Table 4.15.

The χ^2 value obtained of 52.05 is greater than the critical value, and therefore the hypothesis is accepted. Hence, there was a significant relationship between the extent to which schools were equipped and practical performance. The relationship was found to be stronger than for the theory scores, given that the Cramer's V value was 0.26, compared to only 0.17 for the theory scores. Thus, practical performance is more dependent on availability of facilities than theory performance. However, the relationship is still a weak one.

On the whole, this study shows that performance in both the theory and practical components of Art and Craft is related to the status of facilities in schools, but the relationship is not strong. The finding that the relationships are weak can be explained from the fact that several other factors come into play in ensuring success in the learning process. For instance, teachers' interests and commitment plays an important role in the process. In one of the very well equipped schools in the area of study, the equipment and tools were found to have been generally under lock and key for most of the time, and the Art and Craft teachers explained that there was very little time for practical work due to pressure of the KCPE examination and teachers' lack of interest in the subject. They also confessed that they had inadequate knowledge and expertise in the use of some of the equipment. Hence,

Table 4.15
Relationship between Pupils' Practical Performance and
Status of Facilities in Schools

Perform- ance	<u>Status of Equipment and Tools</u>							
	Very Few/ None		A Few		Sufficient/ Very Many		Total	
	N	%	N	%	N	%	N	%
Above								
Average	50	12.3	43	10.5	4	1.0	97	23.9
Average	74	18.1	95	23.3	14	3.4	183	44.8
Below								
Average	52	12.8	36	8.8	40	9.8	128	31.4
Total	176	43.2	170	42.6	58	14.2	408	100.0

$$\chi^2 (4), \underline{N} = 408 = 52.05, \underline{P} < .05$$

$$\chi^2_{\text{critical}} (4) = 9.49, \underline{P} < .05$$

Cramer's V value = 0.26.

the facilities were hardly ever used, leading to the type of situation that Moshia (1988) warned about when he cautioned that it is not just the amount of resources that counts with regard to performance; more important is how they are used. Despite these other factors, the finding that there is a relationship between adequacy of facilities and the pupils' Art and Craft performance still holds true. The availability of facilities makes practical work possible, all other factors being equal. The issue of practical work and its effect on theory performance at KCPE has been studied by the Kenya National Examinations Council since the first examination in 1985, as reported in all the Newsletters for the years between 1985 and 1991. For instance, in the 1988 newsletter, the research team observed the following with regard to the art component of the subject:

There are indications that much of the (art) syllabus is being covered in a theoretical way, unrelated to practice. There were several instances this year when candidates gave answers which betrayed their lack of practical work. (KNEC, 1988, p. 151).

Similarly, the newsletter of 1987 had observed that "they (pupils) are not being provided with sufficient rich links between theory and practice" (p. 128). In addition, further research by KNEC established that those exposed to the various equipment, tools, and practical situations perform better than those taught theoretically (KNEC, 1991). This suggests that even for the theory paper, the

performance would improve substantially if pupils were more exposed to practical work.

Other related observations with regard to inadequacy of Art and Craft facilities and its effect on performance have been made in studies elsewhere. For example, one of the problems highlighted by Talabi (1979) in his study on the teaching of art in Nigeria was the lack of specialized rooms and facilities for the teaching of art, rendering the learning process difficult. This was the situation observed for the majority (89.5 percent) of the schools investigated in this study, which had hardly any facilities for the teaching of Art and Craft (see Table 4.15).

At the National level, statistics indicated that by 1991, only 3,132 of the 13,132 workshops needed for primary schools in Kenya were ready, which is only about 24 percent of the total number of schools. However, out of that number, even fewer schools would have been able to equip those rooms with the necessary equipment and tools. As of 1990, it was estimated that each workshop required about Ksh. 100,000.00 as reported by the Permanent Secretary, Ministry of Education, Benjamin Kipkulei (The Daily Nation, 7th July, 1991). Given the inflation rates since then, that figure continues to increase, and is beyond the reach of many communities in the country, unless the Government and other aid agencies intervene.

Therefore, achieving the goal of providing Kenyan schools with adequate facilities for Art and Craft may take a long time to be accomplished, if it is even possible. The main hindrance is the cost involved for the workshops, equipment,

and tools, as highlighted above. These sentiments have been expressed from various sectors of the society, including the media, church organizations and various other forums, since the commencement of the 8-4-4 system. For instance, Igumagomya observed the following, "The cost of maintenance of machinery for primary schools would be too high for the already financially burdened parents to foot, even if a mammoth Harambee Meeting is conducted" (The Standard, 10th September, 1986, p. 7).

Similarly, the churches under various umbrellas, such as the National Council of Churches in Kenya (NCCCK), have constantly re-iterated that the cost for the 8-4-4 education system and particularly the practical component, which includes Art and Craft, was too heavy for the parents. Rev. Kobia, on behalf of NCCCK said that, "The system had overtaxed parents, who have had to sell so much of their belongings to sustain the bottomless pit of schools' economic needs" (reported by Wamahiu Muya and Muthui Mwai, The Daily Nation, 13th September, 1991).

To counteract the effect of lack of facilities in schools, the study found that there were great efforts to improvise from both the teachers and the pupils, particularly in the poor schools. Given that it may take a long time to realize the goal of equipping schools adequately, these efforts were commendable.

4.4.4 Pupils' Performance in Art and Craft in Relation to Rural and Urban School Environments

The summary of the performance in the two school settings, rural and urban, is shown in Table 4.16, for both the theory and the practical aspects of the subject.

The difference between the pupils' theory performance in the rural and urban schools settings was investigated through hypothesis 3 (H_3), which stated that "there is a significant difference between the performance in Art and Craft for pupils from rural schools and those from urban schools." The results indicate that the t-value obtained of -3.02, is numerically greater than the critical value of 1.96 at 406 degrees of freedom, hence, the hypothesis (H_3) is accepted. Considering also that the mean score for the urban pupils is higher at 57.4 than that of the rural pupils at 53.8, it can be concluded that the performance of the pupils in the urban schools setting is better than that of the pupils in the rural schools setting.

Similarly, investigations for the practical performance were guided by Hypothesis 4 (H_4), which states that "there is a significant difference between the practical performance in Art and Craft for pupils from the rural schools and those from urban schools." The mean scores obtained for the rural and urban school pupils are shown in Table 4.16. Given that the t-value obtained of 6.64 is greater than the critical value of 1.96, the hypothesis is accepted. In this case, the performance of the rural pupils was found to be better than that of the urban pupils, with mean scores of 57.0 percent and 49.5 percent, respectively.

Table 4.16

**Comparison of Pupils' Art and Craft Performance in
Rural versus Urban School Settings**

	Pupils in Rural Schools <u>N</u> = 309	Pupils in Urban Schools <u>N</u> = 99
<u>Theory Component</u>		
Mean		
Score (<u>M</u>)	53.8	57.4
<u>SD</u>	9.3	10.6
	(t (406) = -3.02, <u>P</u> < .05)	
<u>Practical Component</u>		
Mean		
Score (<u>M</u>)	57.0	49.5
<u>SD</u>	11.4	9.3
	(t (406) = 6.64, <u>P</u> < .05)	

It is important to note that the pattern observed for the theory performance contradicted that for the practical performance. That is, for the theory assessment, pupils from urban schools outperformed those from rural schools; whereas for the practical performance, the converse is true; that is, pupils from rural schools outperformed those from urban schools. The results for the theory performance are similar to those of the study by Mwaniki (1973) for general academic achievement in which pupils from urban schools generally out performed those from rural schools. This was explained by superior teachers' qualifications and facilities for the urban schools compared to rural schools. In this study, the Art and Craft facilities in the urban schools were found to be generally better than those in rural schools. As can be seen from Appendices I and J, all the urban schools were either very well equipped or had fairly adequate equipment and tools, while in the rural areas, the majority of the schools, (67 percent), had "very few" equipment or none at all.

What is of special interest is that despite the lack of facilities, pupils from the rural schools emerged with better practical performance than those from urban schools. The researcher and the technical experts observed that there was a lot of improvisation in the rural schools compared to the urban schools, with emphasis on the use of locally available materials. Additionally, there appeared to have been more Art and Craft activities in the rural schools compared to urban schools. This may explain why the quality of the practical projects was generally higher in the rural schools than in the urban schools. It was also found that those schools that

had good facilities did not use them adequately. The main reasons given by the teachers concerned for this state of affairs were: shortage of time, lack of knowledge and skills on how to use some of the equipment and tools, and sometimes lack of interest on the part of teachers. Hence, availability of facilities does not guarantee good performance in Art and Craft. It is however important to provide these facilities, while working on the other factors that impede good performance in Art and Craft.

4.4.5 Performance in Art and Craft for Pupils in Day Schools Compared to that of Pupils in Boarding Schools

The hypotheses H_5 and H_6 , which were addressed in this section, state as follows:

H_5 : There is a significant difference between the theory Art and Craft performance for pupils attending boarding schools and those attending day schools.

H_6 : There is a significant difference between the practical Art and Craft performance for pupils attending boarding schools and those attending day schools.

The results for the pupils' performance in the two categories of schools, for both the theory and the practical aspects of Art and Craft, are as shown in Table 4.17.

Table 4.17

**Comparison of Pupils' Art and Craft Performance in
Day versus Boarding Schools**

	<u>Category of Schools</u>	
	Day Schools (<u>N</u> =322)	Boarding Schools (<u>N</u> =86)
<u>Theory Component</u>		
Mean		
Score (<u>M</u>) %	53.8	60.3
<u>SD</u>	10.3	10.1
	(t (406) = - 5.28, <u>P</u> < .05)	
<u>Practical Component</u>		
Mean Score		
(<u>M</u>) (%)	53.7	60.3
<u>SD</u>	10.9	11.4
	t (406) = -4.82, <u>P</u> < .05	

For the theory component, the results indicate that pupils from boarding schools performed better than those from day schools, with mean scores of 60.3 percent and 53.8 percent, respectively. The difference in the performance is significant in that the t-value obtained of -5.28 is numerically higher than the critical value at 0.05 level of significance. Hypothesis H_5 is therefore accepted.

As was observed with the theory scores, the boarding pupils outperformed the day pupils with mean scores of 60.3 percent and 53.7 percent, respectively. The difference in the performance is significant in that the t-value obtained of -5.28 is numerically higher than the critical value at 0.05 level of significance. Hypothesis H_5 is therefore accepted.

As was observed with the theory scores, the boarding pupils outperformed the day pupils with mean scores of 60.3 percent and 53.7 percent, respectively. The difference in performance is significant given that the t-value obtained of -4.82 is numerically greater than the critical value of 1.96. Therefore, hypothesis H_6 is accepted.

The most likely factor accounting for the boarding pupils outperforming the day pupils is the time element. Children in boarding schools generally have more time to devote to school work while in school compared to the day pupils who have to travel back and forth from school. The latter group is also likely to be involved with household chores, particularly the girls, before and after school as has been shown in studies such as Wamahiu, Nyagah and Opondo (1992). Hence, more

study time available to the boarding pupils enabled them to perform better than their day counterparts.

Table 4.18

Differences in Art and Craft Performance between Boys and Girls

4.4.6 Pupils' Performance in Art and Craft in Relation to Gender

Investigation of the performance with regard to gender was guided by the following hypotheses of this study:

- H₇: There is a significant difference between boys' and girls' theory performance in Art and Craft.
- H₈: There is a significant difference between boys' and girls' practical performance in Art and Craft.

Table 4.18 provides a summary of the performance achieved by both the boys and the girls, in the theory examination (KCPE), as well as the practical aspect of the subject.

From the results, it is evident that there is no significant difference in the theory performance between boys and girls, given that the means are approximately the same, 55.4 percent and 55.1 percent for boys and girls respectively. In addition, the t-score obtained is much less at 0.28 than the critical value of 1.96, which is further support of the finding that there is no significant difference between the two sets of performances. Hence, hypothesis 7 (H₇) is rejected.

$$t_{\text{obtained}} = 0.28, t_{\text{critical}} = 1.96, P < 0.05$$

Table 4.18

Differences in Art and Craft Performance between Boys and Girls

Performance	<u>Sex of Pupils</u>	
	Male	Female
	<u>N</u> = 203	<u>N</u> = 205
<u>Theory Component</u>		
Mean		
Score (<u>M</u>) %	55.4	55.1
<u>SD</u>	10.5	10.8
$t(406) = 0.28, P < .05$		
<u>Practical Component</u>		
Mean		
Score (<u>M</u>) %	56.6	53.0
<u>SD</u>	11.6	10.6
$t(406) = 3.27, P < .05$		

$$t_{\text{critical}} = 1.96, P < .05$$

On the other hand, results on the practical assessment show that there is a significant difference between the boys' performance and that of girls. These results are contrary to the results on the theory performance. The t-value obtained of 3.27 is greater than the critical value of 1.96 at 0.05 level of significance. The mean scores are also different with the boys acquiring a higher mean of 56.6 percent compared to 53.0 percent for the girls. Hence, the proposed hypothesis H_8 is accepted.

Although there was no study found during the literature search which focussed specifically on performance in Art and Craft in relation to gender, there was an international survey by Comber and Keeves (1973) on gender differences in performance in sciences in 19 developed countries for learners aged 10, 14 and 17 years. The study found that boys outperformed girls in physical sciences as well as in the practical aspects of other sciences (Comber and Keeves, 1973). Art and Craft, like physical sciences, is a practical subject which also draws a lot from sciences. Further, the age group of the learners in the survey, particularly the 14 and 17 year age categories, was almost the same as that of the target group of pupils for this study, whose mean age was 15 years. The finding of poorer performance on the part of girls compared to boys may therefore be extended to the Art and Craft subject. That is, the reasons for the poor performance in sciences may be applicable to Art and Craft, although further research would be useful to confirm this point of view.

Studies such as those of Leuzinger (1960) and Mwaniki (1973), had shown that there was a sharp dividing line between the work

One of the explanations commonly put forward for the poorer academic performance for girls, especially those in rural areas of developing countries like Kenya, is that girls spend more time helping at home compared to the boys (Mwaniki, 1973). Mwaniki's study, which was on academic achievement by Kenyan pupils, found that boys generally outperformed girls in most subjects except in English. In this context, since most of the Art and Craft projects are done at home due to shortage of time in school, as reported by teachers, then the boys are likely to have more time for their projects compared to the girls.

Despite the fact that the study by Mwaniki was carried out almost twenty (20) years earlier, the scenario with regard to time still holds true for the Kenyan girl-child according to a recent study carried out on behalf of UNICEF (Wamahiu et al., 1992). The study found that the girl-child was overburdened with housework during the evenings, that is, after school, and also during the weekends. On the other hand, the boy-child had plenty of time to himself for play and reading compared to his "sister". The limited study time may therefore be one of the causes for the poorer performance for girls in practical Art and Craft.

The boys' better performance in practical Art and Craft compared to girls could probably also be attributed to the traditional practices with regard to arts and crafts. As noted in the literature review, there was gender differentiation in various arts and crafts activities within the District (Embu), the Country (Kenya) and the Continent (Africa) in general. Studies such as those of Leuzinger (1960) and Mwaniki (1973), had shown that there was a sharp dividing line between the work

of men and women in arts and crafts, and that it was regarded discreditable for one to perform tasks appropriate to the opposite sex. In this regard, females concentrated on areas such as basketry and pottery while the males dealt with sculptures, building and smithery. These sentiments of divided tasks in arts and crafts may prevail within the society; they may affect what goes on in the schools with regard to the Art and Craft subject, where all learners, both boys and girls, are expected to perform all tasks equally.

A close examination of the topics (shown in Appendix L) reveals that the bulk of the syllabus deals predominantly with tasks that were "traditionally male," particularly within the Embu culture as discussed in Chapter Two. For instance, the major topics in the syllabus are art, woodwork, metalwork, building construction, and leatherwork, which were categorized as belonging to the male domain (Republic of Kenya, 1992).

In addition, analysis of the Art and Craft syllabus content reveals that in standard eight (8) for example, six (6) out of the eight (8) topics in the year could be described as falling within the traditionally male domain (Republic of Kenya, 1992). These topics are: building construction, metalwork, woodwork, graphic design, sculpture, and picture making (see Appendix L). The only topic that could be described as being female oriented is fabric decoration, while print making may cut across both sexes. Similarly, an analysis of the standard seven (7) syllabus shows that there are fewer female oriented topics compared to those that are male oriented. Specifically, there are three (3) topics that could be described as being

traditionally female out of the ten (10) topics for that year. These topics are: basketry, weaving and fabric decoration. From this analysis, the syllabus may be said to be in favour of boys, hence, the superior performance of the boys compared to the girls in the practical Art and Craft, given the slow nature of change for any culture.

4.4.7 Pupils' Performance in Art and Craft in Relation to Parental Occupations

The hypotheses expressing the expected relationships between performance and parental occupations state as follows:

- H₉: There is a significant relationship between pupils' theory performance in Art and Craft and their fathers' occupations.
- H₁₀: There is a significant relationship between pupils' practical performance in Art and Craft and their fathers' occupations.
- H₁₁: There is a significant relationship between pupils' theory performance in Art and Craft and their mothers' occupations.
- H₁₂: There is a significant relationship between pupils' practical performance in Art and Craft and their mothers' occupations.

Results pertaining to the fathers' occupations and pupils' performance in the theory and the practical aspects of Art and Craft are first presented in Tables 4.19 and 4.20. The chi-square values obtained for both the theory and the practical aspects of the subject of 4.15 and 4.85, respectively, compared to the critical value of 12.59 for six (6) degrees of freedom at $P < .05$, indicate that there is no significant relationship between pupils' performance in Art and Craft and fathers' occupations.

Results of the comparison of mean scores for pupils with fathers of different occupations are shown in Tables 4.21 and 4.22, for the theory and the practical components, respectively. Table 4.21 demonstrates that there are minimal differences between mean theory scores for pupils with fathers of different occupations. Pupils with professional and Artisan fathers obtained marginally higher mean scores of 55.8 percent and 56.0 percent, respectively, compared to those whose fathers were peasant farmers and businessmen, whose mean scores were 53.7 percent and 54.1 percent, respectively. On the whole, there is no significant difference between the mean scores for the theory performances. Table 4.22 provides details of mean scores for the practical component of the subject.

The analysis of the mean scores presented in Table 4.22 indicates very little variation in the practical performance for pupils with parents of different occupations. Pupils whose fathers were either peasant farmers or artisans had a marginally higher mean score of 55.3 percent for the practical work compared to an

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Results of the comparison of mean scores for pupils with fathers of different occupations are shown in Tables 4.21 and 4.22, for the theory and the practical components, respectively. Table 4.21 demonstrates that there are minimal differences between mean theory scores for pupils with fathers of different occupations. Pupils with professional and Artisan fathers obtained marginally higher mean scores of 55.8 percent and 56.0 percent, respectively, compared to those whose fathers were peasant farmers and businessmen, whose mean scores were 53.7 percent and 54.1 percent, respectively. On the whole, there is no significant difference between the mean scores for the theory performances. Table 4.22 provides details of mean scores for the practical component of the subject.

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Table 4.19

**Relationship between Pupils' Theory Performance in
Art and Craft and Fathers' Occupations**

Father's Occupation	<u>Performance</u>							
	Above Average		Average		Below Average		Total	
	N	%	N	%	N	%	N	%
Peasant Farmer	66	16.2	68	16.7	50	12.2	184	45.1
Businessman	22	5.4	25	6.1	14	3.5	61	15.0
Professional	55	13.5	39	9.6	28	6.8	122	29.9
Artisan	19	4.6	12	2.9	10	2.5	41	10.0
Total	162	39.7	144	35.3	102	25.0	408	100

$$\chi^2 (6, N = 408) = 4.15, P < .05$$

$$\chi^2_{\text{critical}} (6) = 12.59, P < .05$$

$$\text{Cramer's value} = 0.069$$

Table 4.20

**Relationship between Pupils' Practical Art and
Craft Performance and Fathers' Occupations**

Father's Occupation	<u>Performance</u>						Total	
	Above Average		Average		Below Average			
	N	%	N	%	N	%	N	%
Peasant Farmer	47	11.5	85	20.8	52	12.8	184	45.1
Businessman	13	3.2	31	7.6	17	4.2	61	15.0
Professional	30	7.4	49	12.0	43	10.5	122	29.9
Artisan	7	1.7	18	4.4	16	3.9	41	10.0
Total	97	23.8	183	44.8	128	31.4	408	100

$$\chi^2 (6, N = 408) = 4.85, \underline{P} < .05$$

$$\chi^2_{\text{critical}} (6) = 12.59, \underline{P} < .05$$

$$\text{Cramer's V value} = 0.09$$

Table 4.21

**Comparison of Pupils' Mean Art and Craft Theory
Scores for Various Fathers' Occupations**

Father's Occupation	Mean Score (<u>M</u>) (%)	<u>SD</u>
Peasant Farmer <u>N</u> = 184	54.1	10.5
Businessman <u>N</u> = 61	53.7	9.7
Professional <u>N</u> = 122	55.8	10.3
Artisan <u>N</u> = 41	56.0	10.7
Overall Mean (<u>N</u> = 408)	54.7	10.3

Table 4.22

Comparison of Pupils' Mean Art and Craft Practical

Scores for Various Fathers' Occupations

Father's Occupation	Mean Score (<u>M</u>) (%)	<u>SD</u>
Peasant Farmer <u>N</u> = 184	55.3	11.6
Businessman <u>N</u> = 61	54.8	9.2
Professional <u>N</u> = 122	54.1	11.6
Artisan <u>N</u> = 41	55.3	11.5
Overall Mean (<u>N</u> = 408)	54.7	11.2

overall mean of 54.7 percent, while pupils with professional parents had the least mean score of 54.1 percent in that aspect of performance.

From the chi-square tests and the comparison of mean scores, the study shows that there is no relationship between fathers' occupations and pupils' performance in Art and Craft, for both theory and practical components. Therefore, fathers' occupations appear to be of no consequence regarding the pupils' performance in Art and Craft is concerned.

With regard to the relationship between pupils' performance in Art and Craft and mothers' occupations, the results are detailed in Tables 4.23 and 4.24. Results in these tables are similar to those pertaining to fathers' occupations. The chi-square values of 8.87 and 11.55 for both the theory and practical Art and Craft performance, respectively, in relation to mothers' occupations, indicate no significant relationship given the critical chi-square value of 12.59. Further analysis of the performance against mothers' occupations is given in Tables 4.25 and 4.26 in which mean scores for pupils with mothers of different occupations are shown.

The data shown in Tables 4.25 and 4.26 indicate that there is very little variation between the pupils' mean scores for the various mothers' occupations. However, the mean scores for pupils with professional mothers are slightly higher than for the rest of the pupils for both the theory and the practical aspects of the subject. For instance, for theory scores, the mean for pupils with professional mothers was 57.2 percent compared to an overall mean of 54.8 percent. Pupils whose mothers were

Table 4.23

**Relationship between Pupils' Theory Performance in
Art and Craft and Mothers' Occupations**

Mother's Occupation	<u>Performance</u>							
	Above Average		Average		Below Average		Total	
	N	%	N	%	N	%	N	%
Peasant Farmer	60	14.7	60	14.7	34	8.3	154	37.7
Businesswoman	24	5.9	25	6.1	15	3.7	64	15.7
Professional	41	10.1	25	6.1	16	3.9	82	20.1
Housewife	37	9.1	34	8.3	37	9.1	108	26.5
Total	162	39.8	144	35.2	102	25.0	408	100

$$\chi^2 (6, N = 408) = 8.87, P < .05$$

$$\chi^2_{\text{Critical}} (6) = 12.59, P < .05$$

Cramer's V value = 0.01

Table 4.24

**Relationship between Pupils' Practical Performance in
Art and Craft and Mothers' Occupations**

Mother's Occupation	<u>Performance</u>							
	Above Average		Average		Below Average		Total	
	N	%	N	%	N	%	N	%
Peasant Farmer	37	9.1	71	17.4	46	11.2	154	37.7
Businesswoman	8	2.0	39	9.6	17	4.1	64	15.7
Professional	25	6.1	30	7.4	27	6.6	82	20.1
Housewife	27	6.6	43	10.4	38	9.4	108	26.5
Total	97	23.8	183	44.8	128	31.4	408	100.0

$$\chi^2 (6, N = 408) = 11.55, \underline{P} < .05$$

$$\chi^2_{\text{Critical}} (6) = 12.59, \underline{P} < .05$$

Cramer's V value = 0.05

Table 4.25

**Comparison of Pupils' Mean Art and Craft Theory Scores
for Various Mothers' Occupations**

Mother's Occupation	Mean Score (<u>M</u>)	<u>SD</u>
Peasant Farmer N = 154	54.8	9.9
Business-woman N = 64	55.6	11.0
Professional N = 82	57.2	10.1
Housewife N = 108	52.2	10.5
Overall Mean <u>N</u> = 408	54.8	10.4

Table 4.26

Comparison of Pupils' Mean Art and Craft Practical

Scores for Various Mothers' Occupations

Mother's Occupation	Mean Score (<u>M</u>)	<u>SD</u>
Peasant Farmer <u>N</u> = 154	54.9	10.8
Business-woman <u>N</u> = 64	53.4	10.3
Professional <u>N</u> = 82	56.0	12.7
Housewife <u>N</u> = 108	55.0	12.1
Overall Mean (<u>N</u> = 408)	54.9	10.8

housewives had the lowest mean of 52.2 percent in that category. However, as mentioned before, these differences are minimal and not statistically significant. Thus, the hypotheses stated with regard to pupils' Art and Craft performance in relation to parental occupations are rejected.

A possible explanation for these results on performance in relation to parental occupations lies in the literacy level of the parents, and their knowledge of the Art and Craft content. It is noted that many of the fathers, 45 percent of them, were peasant farmers, while about 38 percent and 26 percent of the mothers were peasant farmers and housewives, respectively. These categories of parents are likely to have been either illiterate or have had little education compared to parents in other occupations, especially the professionals. Therefore, they would not have been in a position to assist their children with actual school work, other than supporting them to be in school, through participation in provision of school buildings and materials, and payment of various school levies.

Parents in the other categories of occupations may also have had limited direct involvement and influence on their children's school work in Art and Craft given the lack of a significant relationship between performance and parental occupations. Perhaps the Art and Craft content is beyond the comprehension of the majority of the parents. It is important to point out that some of the teachers reported having had difficulties understanding some of the areas of the content, which they described as having been too technical. It would be expected that even the parents may have had similar, if not greater difficulties with the content and

would therefore not have been in a position to assist their children effectively in the study of Art and Craft. This may account for the absence of a significant relationship between the pupils' performance in the subject and parental occupations.

4.5 Findings on Pupils' Attitudes towards Art and Craft

This section addresses the last five hypotheses, that is, H_{13} to H_{17} , which examine pupils' attitudes towards Art and Craft in relation to specific variables. These variables are: rural versus urban, day versus boarding school settings, pupils' gender, and parental occupations.

Table 4.27 gives the summary of the attitude scores obtained by the pupils. The results indicate that the majority of pupils in the sample had positive attitudes towards Art and Craft. This is reflected by the large percentage of pupils, 88.0 percent (359 out of the 408 pupils studied), who obtained a score of sixty-one (61) points and above, out of the maximum of one hundred (100) points in the attitude test. The mean score was also high, standing at 80.2 with a standard deviation of 14.4. The high mean score is another indicator of the finding that the pupils generally had positive attitudes towards the subject.

Further support to the finding is the large percentage of pupils, seventy-three (73) percent (298 pupils) who strongly agreed with the statement that "a good primary education must have Art and Craft included in the curriculum." About the

Table 4.27**Results of the Attitude Test towards Art and Craft for Pupils**

Range of Scores	Category of Attitudes	No. of Pupils	% of Pupils per Category
20 - 59	Negative	36	8.8
60	Neutral	13	3.2
61 - 100	Positive	359	88.0
Total		408	100.0

*Mean Score = 80.2**SD = 14.4**Minimum Score = 20**Maximum Score = 100*

same number of pupils, 304, 74.5 percent, strongly disagreed with the statement that "the Art and Craft subject was a waste of valuable school time." On the whole, pupils overwhelmingly agreed with statements that reflected positive feelings and opinions towards Art and Craft. Less than 10 percent (8.8 percent) of the pupils displayed negative attitudes towards Art and Craft, as can be seen from Table 4.27. Thus, this study has demonstrated that, on the whole, pupils' attitudes towards Art and Craft were positive.

The finding appears to contradict the generally held opinion about the Kenyan public with regard to attitudes towards Art and Craft and other prevocational subjects. For instance, Gombe (1990) had observed that there was a general negative attitude towards Art among parents, teachers and pupils (p. 14). Even in the former education system in the country, several studies including Bessey (1972) and Mutua (1979) had shown that pupils' attitudes had been negative towards the subject, particularly because of the lack of the examination element. In her study on factors that influence learning at primary level, Mutua (1979) noted the following:

In Kenya, education at the primary level is almost totally geared towards success in examinations to the extent that the teaching of non-examinable subjects is considered by teachers and pupils alike as a waste of valuable time. (p. 36).

Art and Craft as well as other practical subjects have generally been non-examinable at the end of the primary cycle, until the introduction of the 8-4-4 curriculum in primary schools. The absence of the examination element led to

these subjects being neglected by the schools. Earlier on, the study on curriculum development in Kenya by a British Advisory team, led by Gordon S. Bessey (1972), confirmed that practical subjects were almost totally neglected at primary level.

The commission noted:

... on the whole, our experience suggests that arts and crafts were virtually non-existent in the upper primary standards, particularly in the rural areas ... in the majority of schools, the creative arts became more and more neglected as the Certificate of Primary Education Examination (CPE) approached. (pp. 30-31).

Thus, most of the studies in the former education system in Kenya suggested that the pupils had negative attitudes towards Art and Craft and other prevocational subjects. However, other studies discussed in the literature review, for example Lauglo (1985), had recorded positive attitudes towards prevocational subjects such as Industrial Education (mainly metalwork and woodwork) at the secondary school level. As explained in Chapter Two, Industrial Education had similar objectives with the 8-4-4 Art and Craft subject and differed mainly with the target groups, that is, the secondary and the primary school learners.

The main possible reason for the positive attitudes towards Art and Craft in the 8-4-4 education system is the fact that the subject is now examinable for the Kenya Certificate of Primary Education (KCPE) at the end of the primary cycle

unlike the situation in the previous system. As mentioned before, the examination element is very important in Kenya as well as other developing countries due to limited opportunities for higher education in these countries. The subject is therefore taken more seriously than before. Consequently, the pupils learn to like the subject, and hence, the positive attitudes.

4.5.1 Pupils' Attitudes towards Art and Craft with Respect to Rural - Urban School Settings

The hypothesis that guided this investigation stated as follows:

H₁₅: There is a significant difference in attitudes towards Art and Craft between pupils from urban schools and those from rural schools.

The results of the attitude test show no significant difference between the attitudes of the rural pupils ($N = 309$) compared to those of the urban pupils ($N = 99$). The mean attitude score for the rural pupils ($M = 80.8$, $SD = 13.2$), is slightly higher than that of the urban pupils ($M = 78.1$, $SD = 17.5$). However, the t-test shows that the difference in the two means is not statistically significant in that the t-value obtained, $t = 1.41$, $P < .05$, is less than the critical value of 1.96.

This is an interesting finding in that pupils from rural schools would be expected to have had more positive attitudes towards Art and Craft compared to

those from the urban schools. This is because there are more activities associated with the subject in the rural areas compared to the urban areas. For instance, activities associated with daily existence such as building and making of bricks are more prevalent in the rural areas, and the rural children are often involved in these activities. Furthermore, most of the traditional craftspeople are more available in the rural settings as opposed to the urban ones. The pupils' familiarity with these activities would likely lead to more positive attitudes towards Art and Craft.

However, this study has found no significant difference in the attitudes towards Art and Craft between the two groups of pupils, the rural and the urban. A possible explanation for this finding may be the status that the subject holds in the 8-4-4 system of education. Since all pupils must sit for the KCPE Art and Craft examination as highlighted before, they may all end up appreciating the importance of the subject for their future, and hence, the results obtained in this study.

4.5.2 Pupils' Attitudes towards Art and Craft with Respect to Day

Boarding School Settings

The difference between the attitudes of pupils from boarding schools and those from day schools was examined through hypothesis 14, which states as follows:

H₁₄: There is a significant difference in the attitudes towards Art and Craft between pupils attending day schools and those attending boarding schools.

The day and boarding pupils displayed a bigger difference in their attitudes towards Art and Craft as compared to the rural-urban categorization. The t-test clearly demonstrates that the pupils attending day schools generally had more positive attitudes towards Art and Craft ($\underline{M} = 81.0$, $\underline{SD} = 10.5$) than their boarding counterparts ($\underline{M} = 77.0$, $\underline{SD} = 15.3$), $t(406) = 2.19$, $P < .05$. Thus, the t-value obtained is greater than the critical value of 1.96, and therefore, the stated hypothesis H₁₄ is accepted.

This difference in attitudes could be explained by the fact that the day school pupils are in constant touch with the rest of the society, including the local craftspeople. The boarders on the other hand are isolated from the rest of the society for the greater part of the year. The constant interaction of the day school pupils with the day to day activities of the society, including those associated with Art and Craft, may result in the pupils' preference for those activities compared to the boarders. This would consequently, result in more positive attitudes towards Art and Craft.

4.5.3 Pupils' Attitudes towards Art and Craft in Relation to Gender

The hypothesis proposed for the relationship between pupils' attitudes towards Art and Craft and their gender states the following:

H₁₇: There is a significant difference between boys' and girls' attitudes towards Art and Craft.

The results obtained for testing this hypothesis demonstrate that there was no significant difference between the boys' and girls' attitudes towards Art and Craft. Although the average attitude score obtained by the boys ($\bar{M} = 81.1$, $\underline{SD} = 14.0$), was slightly different from that of the girls ($\bar{M} = 79.3$, $\underline{SD} = 14.7$), the t-statistic obtained, ($t(406) = -1.27$, $\underline{P} < .05$), is numerically lower than the critical value of 1.96. Hence, the hypothesis that there is a difference between boys' and girls' attitudes is rejected.

It is interesting to observe that there is no significant difference between boys' and girls' attitudes towards Art and Craft given that in the previous education system the subject was mainly for boys only. The main plausible explanation for the finding is that the subject is now compulsory and examinable for both the boys and the girls equally. Additionally, all the pupils, both boys and girls, are introduced to the subject indiscriminately at an early age, that is, from standard one

time in school than at home. Hence, both sexes have fairly equal chances of liking or not liking the subject without much outside interference.

4.5.4 Pupils' Attitudes towards Art and Craft in Relation to Parental Occupations

The hypotheses for testing these relationships are stated as follows:

H₁₆: There is a significant relationship between pupils' attitudes towards Art and Craft and their fathers' occupations.

H₁₇: There is a significant relationship between pupils' attitudes towards Art and Craft and their mothers' occupations.

Cross-tabulation of pupils' attitudes and fathers' occupations yielded the following results presented in Table 4.28. The results demonstrate clearly that there is no relationship between pupils' attitudes and their fathers' occupations given that the chi-square value obtained was 4.55 compared to a critical value of 12.59 at six (6) degrees of freedom. Besides the chi-square test, the mean scores for the different categories of pupils with regard to fathers' occupations were computed.

Table 4.28

**Relationship between Pupils' Attitudes towards
Art and Craft and Fathers' Occupations**

Father's Occupation	<u>Attitude Rating</u>							
	Negative		Neutral		Positive		Total	
	N	%	N	%	N	%	N	%
Peasant Farmer	12	2.9	4	1.0	168	41.2	184	45.1
Businessman	8	2.0	3	0.7	50	12.3	61	15.0
Professional	12	2.9	5	1.2	105	25.7	122	29.9
Artisan	4	1.0	1	0.3	36	8.8	41	10.0
Total	36	8.8	13	3.2	359	88.0	408	100

$$\chi^2 (6, N = 408) = 4.55, P < .05$$

Table 4.29

**Comparison of Mean Attitude Scores for Pupils
with Fathers of Different Occupations**

Father's Occupations	Mean Attitude Score (<u>M</u>)	<u>SD</u>
Peasant Farmer <u>N</u> = 184	82.2	13.2
Businessman <u>N</u> = 61	77.7	15.8
Professional <u>N</u> = 122	78.4	15.9
Artisan <u>N</u> = 41	78.2	14.0

The mean scores obtained are a further demonstration of the absence of any relationship between the two variables, pupils' attitudes towards Art and Craft and fathers' occupations. For instance, pupils with professional fathers had approximately the same attitude scores as those whose fathers were artisans, that is, 78.4 percent and 78.2 percent, respectively. Following are the results pertaining to pupils' attitudes towards Art and Craft with respect to the mothers' occupations, starting with the contingency Table 4.30.

The results in Table 4.30 show that the chi-square value obtained of 9.29 is lower than the critical value of 12.59. Hence, the hypothesis was rejected; there is no relationship between pupils' attitudes towards Art and Craft and mothers' occupations. Also, the mean attitude scores for pupils with mothers of different occupations were compared. The results are given in Table 4.31, and they further substantiate that there are no major differences between the attitudes of pupils with mothers of different occupations.

This study has established that there is no significant relationship between pupils' attitudes and parental occupations. Explanation for these results might be related to that offered for the performance results in relation to parental occupations. That is, the parents seemed to have little involvement with their children's school work in Art and Craft, partly due to the rather low literacy level of the parents generally, and partly due to the curriculum content. The subject matter

Table 4.30

Relationship between Pupils' Attitudes towards Art

and Craft and Mothers' Occupations

Mother's Occupation	<u>Attitudes Rating</u>							
	Negative		Neutral		Positive		Total	
	N	%	N	%	N	%	N	%
Peasant Farmer	11	2.7	4	1.0	139	34.0	54	37.7
Businesswoman	11	2.7	4	1.0	49	12.0	64	15.7
Professional	7	1.7	2	0.5	73	17.9	82	20.1
Housewife	7	1.7	3	0.7	98	24.1	108	26.5
Total	36	8.8	13	3.2	359	88.0	408	100

Table 4.31

**Comparison of Mean Attitude Scores for Pupils with
Mothers of Different Occupations**

Mother's Occupation	Mean Attitude Score (<u>M</u>)	<u>SD</u>
Peasant Farmer <u>N</u> = 154	80.7	13.4
Business-woman <u>N</u> = 64	77.4	18.3
Professional <u>N</u> = 82	79.7	15.7
Housewife <u>N</u> = 108	81.5	12.2
Overall Mean	80.2	14.5
<u>N</u> = 408		

the overloaded curriculum, to such an extent that parents have very little interaction with the pupils to be able to influence their attitudes significantly (Wamahiu et al. (1992).

4.6 Teachers Preparedness to Teach Art and Craft

4.6.1 Study of Art and Craft and related Courses by Teachers in School and College

To establish the extent to which teachers were prepared to teach Art and Craft, the questionnaire sought information regarding the amount of time spent studying Art and Craft and related technical subjects at primary level, high school level, and at college level. In addition to the amount of time, teachers also indicated the type of practical courses related to Art and Craft, which they were exposed to during their schooling and training. Further, the study sought to find out how the teachers felt with regard to the quality of training while in college, and how well they felt prepared to teach Art and Craft.

Following are the responses to the questionnaire items seeking that information.

- (a) The first item in this category was: ***"Did you do any arts and crafts in your primary schooling?"***

Twenty six (26) teachers out of the sixty-two (62) teachers in the sample, (41.9 percent), answered that question in the affirmative. Thus, 58.1 percent (36 teachers) did not take Art and Craft in their primary schooling.

(b) Type of Practical Courses Related to Art and Craft undertaken at Primary School

The type of practical courses related to Art and Craft that the twenty-six (26) teachers were exposed to are shown in Table 4.32. It is noted that the majority of those teachers, 61.5 percent, undertook basketry/weaving and sculpture/pottery. Leatherwork had the least number, with only two teachers having had exposure to the course.

(c) Time Taken by Teachers in the Art and Craft Related Courses at Primary School

Besides the type of course, the length of time taken in each of the courses was established. The results are shown in Tables 4.33 and 4.34.

Most of the teachers who took carpentry, (88.9 percent), had at least two years' exposure to the course, presumably the last two years of primary education. With regard to leatherwork, the two respondents who had taken the course had an average of three years, with one having taken two years, and the other one four years. Finally, in the case of building construction, half of the teachers had taken two years, with only one having had four years of the course. Table 4.34 details the periods of time taken for the remaining four courses.

Table 4.32

**Practical Art and Craft related Courses taken by
Teachers at Primary School Level**

N = 62

Course	No. of Teachers	Percentage
Carpentry	9	14.5
Leather-Work	2	3.2
Basketry/Weaving	16	25.8
Building Construction	8	12.9
Painting	10	16.1
Sculpture/Pottery	14	22.6
Graphic Design	9	14.5

Note. Some teachers had taken more than one course, hence, the percentages add up to more than 100.

Table 4.33

Time taken by Teachers for Carpentry, Leather-work,
and Building Construction at Primary School Level

No. of Years	<u>Course</u>							
	Carpentry		Leatherwork				Building Construction	
	N	%	N	%	N	%	N	%
1	1	11.1	-	-	-	-	-	-
2	4	44.5	1	50.0	4	50.0	4	50.0
3	2	22.2	-	-	3	37.5	3	37.5
4	2	22.2	1	50.0	1	12.5	1	12.5
Total	9	100.0	2	100.0	8	100.0	8	100.0

Table 4.34

**Time taken by Teachers for Basketry/Weaving, Painting,
Sculpture/Pottery and Graphic Design in Primary Schools**

School	<u>Course</u>							
	Basketry/ Weaving		Painting		Sculpture/ Pottery		Graphic Design	
	N	%	N	%	N	%	N	%
1	2	12.5	-	-	1	7.1	-	-
2	1	6.2	2	20.0	1	7.1	4	45.0
3	6	37.5	3	30.0	4	28.6	2	22.0
4	3	18.8	3	30.0	5	35.7	3	33.0
5	1	6.2	-	-	-	-	-	-
6	3	18.8	2	20.0	3	21.5	-	-
Total	16	100	10	100	14	100	9	100

The table shows that for three of the courses, Basketry/ Weaving, Painting, and Sculpture/Pottery, a few teachers had spent up to seven years learning the courses, which was the entire period of primary schooling in the previous 7-4-2-3 system of education in Kenya. However, the majority of the teachers had taken between two and four years to learn the courses, also presumed to be the last years in primary school.

(d) Technical Courses undertaken by Art and Craft Teachers at High School

In answer to the question: "*Did you do any technical courses in high school?*", only twenty-one (21) teachers (33.9 percent) said they had. The rest had no exposure at all to practical subjects at high school level. The subjects that the teachers indicated they had taken are presented in Table 4.35.

The table shows that the courses dealing with wood, that is, carpentry and joinery for those who went through the former technical secondary schools in Kenya, and woodwork for those who went through the former industrial education schools, had been taken by the largest number of teachers, that is, twelve (12) and ten (10), respectively. The prevalence of wood related courses may be because those courses require less capital input (for the basic tools) to establish than most of the other courses. Hence, more schools may have offered those wood related

Table 4.35

Technical Courses taken by Teachers at High School

N = 62

Course	No. of Teachers	Percentage
Carpentry & Joinery	12	19.3
Mechanical Engineering	2	3.2
Building Construction	4	6.4
Fine Art	3	4.8
Woodwork	10	16.1
Metalwork	6	9.7

Note. Some teachers had taken more than one course during their high school, as was the case at primary school level. For example, one could have taken metalwork and woodwork for some period of time during the four years in school. Similarly, courses such as carpentry and joinery could have been taken

courses instead of the other courses such as engineering, which would have been more expensive to establish and run.

The length of time spent in each of the courses is indicated in Table 4.36. For all the courses, the majority of the teachers had taken a minimum of two years. Only a few of them, for example, seventeen (17) percent of those who did Carpentry and Joinery, had a full course of four (4) years at high school.

(e) Training of the Teachers towards the Teaching of Art and Craft

(i) Type of Training undertaken

Teachers were asked to indicate if they had been trained to teach Art and Craft. The information provided by the teachers indicated that forty-five (45) of them, (72.6 percent), had been trained. The majority of those teachers, forty (40) out of the forty-five (45), (88.9 percent), had been trained through pre-service training while the remaining 11.1 percent, that is, five (5) out of forty-five (45), had gone through the in-service programme.

(ii) Adequacy of Training

Teachers were then asked to indicate if they felt adequately trained to teach the 8-4-4 Art and Craft syllabus. Only ten (10) of the teachers, 16.1 percent of sixty-two (62), felt adequately trained to handle the present Art and Craft curriculum. Several reasons were given for the inadequacy of training, for both the

Table 4.36

**Time Taken in Technical Courses at High School by
Art and Craft Teachers**

Time in Years	Carpentry & Joinery		Mechanical Engineering		Building Construction		Fine Art		Wood Work		Metal Work	
	N	%	N	%	N	%	N	%	N	%	N	%
1	-	-	-	-	-	-	1	33	-	-	-	-
2	9	75	1	50	3	75	2	67	8	80	5	83
3	1	8.3	-	-	-	-	-	-	1	10	-	-
4	2	16.7	1	50	1	25	-	-	1	10	1	17
Total	12	100.0	2	100	4	100	3	100	10	100	6	100

pre-service and the in-service programmes. The most commonly cited reasons are summarised below:

1. Inadequate Coverage of the Art and Craft Syllabus during Training

Twenty-three (23) teachers, 51.1 percent of the forty-five (45) trained teachers, felt that the coverage of the Art and Craft syllabus was inadequate. They explained that the curriculum for the primary teachers' colleges was very broad, and hence each of the subjects could not be covered to adequate depth due to congestion in the time table. Thus, the amount of time given to each subject was too short to allow sufficient coverage. Closely related to inadequate coverage of the syllabus is the issue of the period of training. This information from the teachers was confirmed by the inspector for Art and Craft at the Ministry of Education in Nairobi, as well as the technical experts who were also Art and Craft tutors in a teacher training college.

2. Period of Training was too Short

Twelve (12) teachers, that is, 26.7 percent of the forty-five (45) trained teachers, felt that the period of training was too short. They noted that with the broad curriculum, a longer period of training was necessary to facilitate adequate coverage of the syllabus.

3. Lack of Adequate Practical Work during Training

Twenty-three (23) teachers out of the forty-five (45) trained teachers, 51.1 percent, stated that exposure to practical work was very limited. They attributed this to two main reasons: First, there was too much emphasis on the theory component of the syllabus compared to practical work. Secondly, they reported that there was a lack of tools, equipment, and workshop materials for most topics. Consequently, the Art and Craft syllabus was treated too theoretically to enable them cope with the practical aspect of teaching in the classroom. Again this information was confirmed by the technical experts and the Art and Craft inspector in Nairobi.

4. Some of the Topics were too Difficult

Eight (8) of the teachers, (17.8 percent), argued that some of the topics in the syllabus were too difficult for them at college. They also argued that some of those topics were the same in the primary school curriculum. Given that they could not grasp them at college, teaching of the same was even more difficult. In this context, many of the teachers identified the art component of the syllabus as being more technical and more difficult than the craft component. Table 4.37 summarises the reasons presented above.

4.6.2 In-Service Courses/Seminars/Workshops Attended towards Art and Craft Teaching

Table 4.37

**Summary of Reasons Given for Inadequacy of Training
for the Teaching of Art and Craft**

N = 45 Trained Teachers

Reason	No. of Teachers	Percentage
Inadequate coverage of syllabus	23	51.1
Period of training too short	12	26.7
Inadequate practical work during training	23	51.1
Some topics too difficult	8	17.8

4.6.2 In-Service Courses/Seminars/Workshops Attended towards Art and Craft Teaching

Teachers were asked to indicate the number of times they had attended in-service courses in the previous five (5) years to update their knowledge and skills and hence, improve their teaching of Art and Craft. Table 4.38 summarizes the responses.

Sixty-one percent (61%), that is, thirty-eight (38) teachers, had attended at least one workshop in the previous five (5) years. It is, however, alarming that about thirty-nine (39) percent of the teachers had not benefitted at all from in-service training.

Teachers were then asked to rate the "usefulness" of those courses. In response to that questionnaire item, the majority of those who had attended the courses, ninety five percent (95%), said they were useful or very useful, with 55.3 percent of them rating the courses as very useful. Only a very small minority of teachers (2.6 percent) did not consider the courses useful. This is an indication that the teachers would benefit greatly from in-service courses if they were made available to all of them.

This study has therefore established that teachers felt inadequately prepared to teach Art and Craft. Their inadequate coverage of the Art and Craft content and related subjects at primary and high school levels was a major drawback in the provision of a sound background in the subject. Furthermore, training at college

Table 4.38

**Number of Times Teachers Attended In-Service Courses,
Seminars or Workshops in Art and Craft**

Number of Times	No. of Teachers	Percentage
Once	20	32.3
Twice	8	12.9
Thrice	6	9.7
Four Times	4	6.4
None at all	24	38.7
Total	62	100.0

level was inadequate as a result of the overcrowded curriculum and inadequate practical work due to limited facilities. In addition, In-service programmes were inadequate and generally not available to most teachers as noted above.

4.6.3 Discussion of the Teachers' Preparedness to teach Art and Craft

Information obtained from the teachers indicates that they felt inadequately prepared for the teaching of Art and Craft. This was reported by 83.9 percent of the teachers. It is noted that all the trainee teachers in Kenya take Art and Craft as a subject at college, but still most of them felt ill-prepared for teaching the subject. Some of them even claimed not to have been trained at all to teach the subject. This claim is an indicator of the inadequacy of the training the teachers receive. Furthermore, given that these teachers take the Art and Craft subject along with all the other subjects at primary level (a total of 13 subjects) it is unlikely that one can be trained adequately to teach the subject in the available time at college. It could be argued that this situation applies to all subjects taught at primary school level. However, it is noteworthy that for Art and Craft, majority of the teachers had not been adequately exposed to the subject prior to training, whereas for most of the other subjects such as English and Mathematics, the teacher trainees had taken them throughout primary and secondary education. In addition, Art and Craft has unique practical skills required such as building construction techniques and metalwork.

This situation of inadequately trained teachers is similar to that described by Talabi (1979). In his book on art teaching in African schools he identified several problems that affected the teaching of art education in Africa. Lack of adequate art teachers was singled out as the most acute problem. He noted that most Art teachers were "generalists," that is, they were not specialized in the Art subject. Further, these "non-specialist" teachers had inadequate opportunities for in-service training. He observed that "non-specialist art teachers had no place for refreshing their ideas and techniques" (Talabi, 1979, p. 2). He added that, "even graduate teachers need some opportunity to keep pace with new discoveries in materials and techniques" (Talabi, 1979, p. 2). Additionally, he observed that lack of in-servicing of teachers, even for well established programmes, leads to a status where knowledge becomes bleak, and the teacher may gradually stagnate.

In applying these observations to Kenya, the need for continuous in-servicing of teachers cannot be over-emphasized, particularly for the newly established 8-4-4 Art and Craft programme. This study has found that in-service training for the Art and Craft teachers was inadequate. Professional encouragement and opportunities for self-improvement after the basic training were not readily available to teachers. As noted earlier, 39 percent of the Art and Craft teachers had not attended any in-service courses. The consequences of the absence of opportunities could be as disastrous as was described by Somerset (1966) in a study on quality of elementary schooling in Uganda. He observed:

Many teachers, particularly those from the more remote areas, complain that after they finish their basic training they receive little further professional advice and encouragement. They often feel that their services are not valued, and that there is little incentive for them to try to improve their teaching skills. This sense of professional isolation probably contributes as much to poor teaching standards to [sic] Uganda's elementary schools as any other single factor. (pp. 17-18).

In other words, lack of adequate in-service training could result in reduced morale and performance for those left out. Unfortunately, Kenya's Ministry of Education does not seem to consider in-service training for Art and Craft as a priority currently, despite the fact that prevocational education is the most unique aspect of the 8-4-4 programme. For example, the intensive in-service programme, "Strengthening of Primary Education (SPRED) project," mounted in 1992 and well funded by the British Government, caters for only English, Mathematics and Science, which are described as "key" subjects. One of the main objectives of SPRED is to improve the quality of teaching of those key subjects (Ministry of Education, 1996).

The inadequacy of training of teachers in the TTCs in Kenya has been observed by various groups of people in this country. For example, a memorandum to the Presidential Committee on Students' Unrest and Discipline of 1991 by thirty-

seven (37) women organizations noted that, "The mass production of trained teachers had created problems due to lack of intensive professional and individualized training" (Gichuru Njihia, The Daily Nation, 13th September, 1991, p. 5).

This memorandum suggested that generally, there has not been proper teacher training in the recent past and especially since the introduction of the 8-4-4 programme due to the large numbers of students in the colleges. This would therefore mean that for practical subjects the situation is expected to be worse due to limited opportunities, resources and time, for carrying out practical work. Hence, there is the need for vigorous and well planned in-service training.

Just before the commencement of the 8-4-4 programme, Daniel Sifuna of Kenyatta University warned that "the introduction of practical subjects necessitated re-training of teachers, besides building workshops and developing new text books," as reported by Wamahiu Muya, (The Sunday Nation, 16th February, 1992.)

In addition, Wanjala Kerre, a specialist in technical education, also pointed out that "primary schools needed 70,000 teachers trained for vocational subjects but they are simply not there." He went on to emphasize that "the subjects are being taught by ordinary teachers", (reported by Wamahiu Muya, The Sunday Nation, 16th February, 1992). It is important to note that the teachers described as "ordinary teachers" have gone through the training offered in the primary teacher colleges in the country, as pointed out earlier. The expert, Kerre, therefore implies that there is need for a different approach to training of teachers of Art and Craft, along with

teachers for other practical subjects. Instead of taking time to re-train teachers, Kerre observed that the Government recruited 10,000 untrained teachers when the system was launched, (Wamahiu Muya, The Sunday Nation, 16th February, 1992). This measure would not have helped in easing the problem of quality of teachers of Art and Craft, although it catered for the quantity of teachers. Thus, the above observations suggest that the training of Art and Craft teachers in Kenya is inadequate and requires special attention.

4.7 Problems of Teaching and Learning Art and Craft in Schools

The fourth objective of this study was to identify the problems affecting the teaching and learning of Art and Craft in schools. To this end, information was collected from both the pupils and the teachers. The results pertaining to the problems as perceived by pupils are presented first followed by the problems from the teachers' perspective, as well as the suggestions made by the teachers to alleviate the problems.

Finally, this section examines pupils' aspirations for higher education. As pointed out by Maleche (1976), aspirations for higher education contribute to negative attitudes towards prevocational subjects (including Art and Craft), and consequently, they (aspirations) could interfere with the teaching and learning of those subjects.

4.7.1 Problems of Teaching and Learning Art and Craft as Identified by Pupils

The pupils were asked to state the kinds of problems they were experiencing in the process of learning Art and Craft. The responses were analyzed and grouped into various categories that emerged. Table 4.39 gives the frequencies for the problems cited.

From the ranking in the table, it is evident that pupils clearly felt that the lack of equipment and tools was the most acute problem. About seventy five percent (75.5%) of the pupils cited this as the most serious problem.

The issue of inadequate materials was ranked fourth, (cited by 48 percent of the pupils), below "shortage of text books", and "too much school work." The researcher believes that the materials were ranked fourth because this is the main area where both the teachers and the pupils can draw help from the immediate environment. In other words, it is possible to improvise by using local materials for many projects except when it comes to the more technical areas such as metalwork, where cost is a major factor. For instance, for the "funnel" project set for that year (1991), pupils from many rural schools were able to collect tins and "fold" them to the required shapes for the funnel, but could not finish the project due to lack of "soldering" equipment and materials. The results show that the biggest shortages are felt in areas where there were no alternatives, for example, text books and the amount of work in general.

Table 4.39

Problems of Art and Craft as Identified by the Pupils

N = 408 Pupils

Problem	Frequency	Percentage
Lack of tools and equipment	308	75.5
Shortage of text books	225	55.1
Too much school work	218	53.4
Inadequate materials	196	48.0
Content too difficult	137	33.6
Content too much	135	33.1
Lack of qualified teachers	131	32.1
Too many A & C assignments	118	28.9
Teachers too fast	78	19.1

Note. Most pupils stated more than one problem; hence, the percentages work out to more than 100.

With regard to **"too much work"**, 53.4 percent of the pupils felt extremely burdened by the broad curriculum. They explained that the curriculum left very little time for them to carry out practical work, both in school and at home. In relation to the broad school curriculum, some pupils (33.1 percent) felt that the Art and Craft content was too much for them to cover. Consequently, some of their teachers were too fast in an attempt to cover the syllabus. This was reported by about twenty (20) percent of the pupils.

Related to the content was the issue of the difficulty level. About thirty four percent of the pupils reported that some areas were too difficult for them to comprehend. Hence, as far as the pupils were concerned, the issue of equipment and tools, lack of materials and that of too much school work suggested that corrective measures be taken.

4.7.2 Problems of Teaching and Learning Art and Craft from the Teachers' Perspective

Teachers generally concurred with the pupils with regard to the problems hampering the teaching-learning process for Art and Craft. The following Table 4.40 details the results of the teachers' responses, together with the frequencies for the cited problems.

Top in the list of the problems was the lack of text books. The table shows that all the teachers in the sample indicated lack of text books as a major issue. It

Table 4.40

**Problems Affecting the Teaching and Learning of
Art and Craft as Reported by the Teachers**

N = 62

Problem	Frequency	Percentage
Lack/inadequate text books	62	100.0
Lack/inadequate equipment, tools and materials	60	96.8
Inadequate training for the teaching of A & C	52	83.9
Inadequate time	45	71.7
Lack of workshops	38	61.3
Lack of interest for both pupils and teachers	11	17.7

Note. The respondents (teachers) generally identified more than one problem;

therefore, the percentages added to more than 100.

was also observed that none of the schools had adequate text books. Thirteen schools (21.0 percent) had "a few" text books, that is, the text books could only be shared among the pupils, while the rest had "none" or "very few." The majority of the schools had text books for the teacher's use only.

Teachers also claimed that obtaining the "right" text books for the syllabus was very difficult, and that some titles had contradictory information. Given that most of the teachers were not "experts" in the area, they felt they needed a lot of guidance particularly through the books.

The second major problem was that of lack of equipment, tools and materials, according to 96.8 percent of the teachers. It is interesting to note that the lack of workshops was not considered a major handicap in the teaching-learning process. Although most of the schools, twelve (12) out of the twenty (20) schools, did not have workshops or even rooms that they used as *workshops*, the problem was still ranked fifth as seen in Table 4.40. This ranking is related to the finding that out of the seven (7) schools which had "*workshops*", only two of them had sufficient equipment for practical work.

As was pointed out in section 4.7, another factor that hampers the teaching and learning of Art and Craft is that teachers felt inadequately prepared to handle the subject. This was, consequently, a major handicap in the teaching of the subject. The problem is complicated further by the fact that time for teaching Art and Craft was reported to be inadequate. Seventy percent of the teachers felt that this was a major issue. The main reason given for inadequate time was that the

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curriculum in general was overloaded, and therefore, practical work was difficult to incorporate into the time table. Furthermore, the KCPE examination does not adequately test the practical component of the subject, and this may contribute to the practical work not receiving much priority in terms of time allocation.

Another factor that hampers teaching and learning of Art and Craft is therefore the examination element at the end of primary education. These examinations have been shown to have a great deal of influence on the importance attached to subjects, particularly in developing countries (Bennaars, 1974; Mutua, 1979). This is basically due to limited opportunities for secondary and higher education. As pointed out by Bennaars (1974), examinations largely determined the credibility of the education practice in Uganda.

The issue of the examination element affecting the teaching of Art and Craft and other practical subjects has also been pointed out in many forums. For instance, Wamahiu Muya reported that "the teaching of practical subjects is even more compromised by the fact that KCPE does not test practical skills. Hence, teachers simply concentrate on teaching the theoretical cognitive skills which defeats the main thrust of the 8-4-4 system" (The Sunday Nation, February 16, 1992).

The sentiments of the curriculum for the 8-4-4 education system being overloaded have been expressed by several scholars, researchers, and other members of the Kenyan society. For instance, a veteran headmaster in the country, Samuel S. Maneno, noted that the system "needs to be streamlined by reducing the

workload on pupils and teachers" (Wamahiu Muya, The Sunday Nation, 16th February, 1992). The pupils' and teachers' views expressed in this study emphasize the need to scale down the overall curriculum content for effective teaching and learning of the various subjects, particularly the practical ones.

Some of those findings on problems of teaching Art and Craft listed here are similar to those of Asihene (1973), in a study on factors that hampered the teaching of Art in Ghana. The factors he identified were lack of effective instruction, lack of appropriate media for teaching, and lack of motivation for art teaching. This suggests that the teaching of Art and Craft has been, and may continue to be, a major problem in developing countries (including Kenya), particularly due to inadequate resources.

The other issue of major concern in the teaching and learning of Art and Craft was found to be the quality of the teaching. This study has shown that the majority of the Art and Craft teachers felt very inadequate in dealing with the subject, despite the fact that most of them had been trained in the teacher training colleges through either the pre-service or the in-service programmes.

Another issue highlighted by the teachers that would hamper teaching and learning of Art and Craft was the issue of aspirations for secondary education. Teachers felt that their most important task was to assist the learners proceed with higher education, and this affected their concentration on teaching of Art and Craft other than for purposes of passing the KCPE examination. This phenomenon was investigated further through establishing pupils' aspirations for higher education.

These aspirations and the desire for further education were solicited through questions such as: *"Do you hope to continue your education in secondary school after completing standard eight?"*

An overwhelming majority of pupils, 402 out of the 408 pupils (98.5 percent), answered that question in the affirmative. This is an indication of very high aspirations for secondary schooling. Only six (6) pupils (1.5 percent) bluntly said they did not aspire for secondary schooling.

To support the view that the pupils' main aim of primary schooling was to proceed to secondary schools, a significant number of them, 162 pupils (39.7 percent), said that they would opt to repeat the KCPE Examination if they were not selected for secondary school after the first sitting. The reasons given for wanting to repeat KCPE are summarised in Table 4.41.

Love for education was given by the majority of pupils, 83.7 percent, as their main reason for wanting to repeat KCPE. A few of the pupils explained that good education opens up doors for good career opportunities, which may be assumed to be white collar jobs, considering that the other choices given in the item were related to occupations mainly requiring manual labour. A few others, 3.6 percent of them felt they were too young to be out of school after standard eight.

Given such high aspirations as has been pointed out in this study, it is likely that both pupils and teachers would put most of their efforts into those aspects of the curriculum that would contribute to high scores in the KCPE Examination. The

Table 4.41

Pupils' Reasons for Wanting to Repeat KCPE

Reason	No. of Pupils	Percentage
Love for Education	138	83.7
Feels good to be in school	14	8.5
Better career opportunities with more education	6	3.6
Too young to be out of school	6	3.6
Good Education is a necessity	1	0.6
Total	162	100.0

Note. $N = 162$ was the number of pupils who said they would repeat KCPE if

practical aspect of Art and Craft is therefore likely to receive less emphasis from both pupils and teachers. This was pointed out by the teachers who explained that due to the examination pressure, practical work was sometimes given second place in the teaching-learning process for Art and Craft, even when equipment and materials were available. Hence, the high aspirations for higher education could be a stumbling block in the efforts to improve performance in Art and Craft, particularly the practical component (see also the findings of Maleche, 1976).

4.7.3 Content Analysis of the Art and Craft Syllabus for the 8-4-4 Education System

As already pointed out in sections 4.7.1 and 4.7.2, both the pupils and the teachers reported that they felt the content of the Art and Craft Syllabus within the 8-4-4 system was too much for them to cover in the time provided by the programme. This study investigated the phenomenon further through analysis of the 8-4-4 Art and Craft content particularly in relation to the previous 7-4-2-3 system of education in the country. References were made to the 1992 and the 1976 versions of the Art and Craft syllabus, representing both systems of education. The analysis focussed on three main areas:

- a) Objectives of the course,
- b) Content of the Art and Craft Syllabus,
- c) Time allocated for the subject.

Objectives of the Art and Craft Subject

For the previous 7-4-2-3 system, the main aim of teaching Art and Craft was to enhance creativity in the learners especially in the early years of the course and particularly in standards one and two. For example, the guidelines for the 1976 Art and Craft Syllabus stated the following:

In the early stages of primary education the emphasis in Art and Craft lessons is on the child exploring a variety of materials in order to express himself rather than on the development of technical skills... Art and Craft should be treated as an activity rather than a subject. (Ministry of Education, Kenya, 1976, p. 148).

While the major objective of teaching Art and Craft in the previous system was to develop creativity in children in their early years, the 8-4-4 objectives, even for lower primary classes, are well-articulated, elaborate, more specific and more demanding in terms of intellectual skills. Some examples of the objectives for specific topics are as follows:

“By the end of the activities, learners should be able to:

- create linear patterns using varied media and surfaces; definite shapes for a given;

- draw a pictorial composition using lines;
- model definite shapes for a given theme using a variety of materials.

(Republic of Kenya, 1992, pp.189, 195, 197).

At the upper primary level, Standards IV – VII, the main objective for the 1976 Art and Craft syllabus was “to provide children with certain intellectual problems, to develop, particularly in the older children, a sense of craftsmanship and to provide all children with a variety of creative experiences. (Ministry of Education, Kenya, 1976, p.153). On the other hand, for the upper primary classes in the 8-4-4 system of education, Art and Craft aims at producing learners with a wider variety of skills than in the previous 7-4-2-3 system. The skills include: using available materials in making inexpensive tools for specific activities; producing functional and aesthetically appealing articles of economic value using acquired skills; and designing, implementing and controlling small scale projects that would provide employment and income-generating opportunities for both the learner and members of the community. (Republic of Kenya, 1992, p.183). Appendix B provides the overall objectives of the Art and Craft course, while objectives for individual topics are detailed in the syllabus document (Republic of Kenya, 1992).

The 8-4-4 Art and Craft course is ultimately geared towards providing skills applicable in the world of work as opposed to the previous 7-4-2-3 system whose main aim was to develop a sense of craftsmanship. It is also important to note that the 8-4-4 syllabus is geared towards the national examinations at the end of the

primary programme, unlike the previous 7-4-2-3 system where the subject did not count for the award of the primary school certificate as pointed out earlier in this report. From the objectives, it is evident that the 8-4-4 A & C course is set to achieve considerably much more than the previous system.

Achieving the objectives for the 8-4-4 A & C programme therefore, requires a lot of time, facilities and dedication on the part of both the teachers and the learners. The overall primary school curriculum is quite broad with sixteen (16) subjects (see Table 1.5) and this would not allow sufficient time being spent on the subject to be able to achieve the set objectives adequately. The examination element would also mean that the teachers and the pupils are likely to concentrate on those aspects of the objectives that would facilitate the learners to pass well in the KCPE examination. This would be at the expense of other objectives that may not have a direct bearing on KCPE which is a theory examination, for example being able to develop projects that would provide employment opportunities. Hence, the objectives of the 8-4-4 Art and Craft curriculum could be described as being unrealistic for the children at that tender age and under the circumstances under which they are to be achieved.

Content of the Art and Craft Syllabus

For the content at upper primary level, standards IV – VII, the 1976 syllabus guidelines identify three factors that would determine the type of crafts that were to be taken in schools. These were: (1) materials available in the locality (2) local

traditions in craftwork, and (3) the ability of the teacher. It was suggested that, “Where a teacher has some ability and interest in a particular craft, that should be the determining factor for deciding the craft to be offered in a particular school.” (Republic of Kenya, 1976 p.154). In other words, there was no need for a common syllabus for all schools in the country. The teachers’ strengths and talents in the area of Art and Craft were the major determinants of the curriculum content. In addition, teachers are expected to allow children complete freedom in their choice of subject and use of materials. Besides, the choices of crafts to be taught in schools in various localities were dependent on the available materials and the predominant traditional craft, as opposed to a national curriculum. It is also important to note that previous syllabuses emphasized on giving suggestions with regard to the possible content for various schools. Statements such as “a scheme of work *could* include”; or “the choice of crafts to be taught will be made at county level...” (Ministry of Education, Kenya, 1976, p.153), were common in the earlier syllabuses. It was crucial that appropriate facilities and personnel be available before a decision was made on the content to be taught. For example, regarding formal woodwork, the 1976 syllabus guidelines observed the following, “A formal woodwork course is only possible where there is a fully equipped workshop and a specialist teacher in charge of it.” (Ministry of Education, Kenya, 1976, p.167). Hence, without the appropriate preparation for given topics with regard to teachers, facilities and equipment, they were not introduced to the schools. This is unlike the 8-4-4 A & C syllabus that began by deciding on the content to be covered by all

schools before putting in place the facilities for implementing the programme. The following Table 4.42 provides a comparison of the A & C content for the 8-4-4 system and the previous system of education (Ministry of Education, Kenya, 1976).

The table shows that the 8-4-4 curriculum has much more content than for the previous 7-4-2-3 education system. Topics such as building construction and metalwork were not included in the previous syllabus. More importantly, the 1976 syllabus suggests that only two crafts needed to be carried out throughout the upper primary school. This could have been done by either spending the first two years on one craft and the next two on the other craft; or by taking the different crafts during alternating terms. (Ministry of Education, Kenya, 1976). On the other hand, for the 8-4-4 A & C curriculum, there is no choice of topics. All the learners are expected to cover all the topics, as any one of them could be included in the KCPE examination. It is evident therefore, from the foregoing analysis, that the 8-4-4 A & C syllabus is overloaded especially in relation to the previous 7-4-2-3 education system.

Time Allocated for Art and Craft

With regard to time allocated for teaching and learning Art and Craft, the following Table 4.43 provides details for the syllabuses in the two systems of education, the 8-4-4 and the previous 7-4-2-3 system.

The time available for Art and Craft for lower primary level in the previous 7-4-2-3 education system was more than that provided for the 8-4-4 system, that is, four (4)

Table 4.42

Comparison of A & C Topics for the 8-4-4 and the 7-4-2-3 Education systems for Upper Primary Classes (Std IV-VII/VIII)

8-4-4 A & C Content	7-4-2-3 A & C Content
<p>Std IV: - Drawing, Painting, Pattern Making, Print Making, Paper Craft, Mosaic and Collage, Sculpture:</p> <p>a) Modeling b) Carving c) Construction, Weaving and Basketry, Puppetry, Ornaments, Fabric Decorating, Pottery/Ceramics, Graphic Design, Etching, Leatherwork, Woodwork.</p> <p>Std V: Additional Topics to those in Std IV</p> <p>Metalwork, Sculpture: Balancing, Decoration shapes and forms</p> <p>Std VI: Additional Topics - Basic Building, Construction</p> <p>Std. VII: Additional Topic – Containers</p> <p>Std. VIII: Additional Topics – Sculpture: Role of sculpture in society, Body Covers.</p> <p>Note: <i>The complete list of the syllabus topics is shown in Appendix L.</i></p>	<p>Std. IV – VII:</p> <p>Basketry and Fibrework, Bookcraft, Carving, Leatherwork, Modeling and Pottery, Weaving and Fabric Printing, Woodwork and Rural woodcraft.</p> <p>Note: <i>Two crafts Should be carried out throughout the upper primary school.</i></p>

Sources: Republic of Kenya, 1992; Ministry of Education, Kenya, 1976.

Note: Each of these topics in the 8-4-4 programmes is detailed further in the 1992 syllabus guidelines (Republic of Kenya, 1992).

Table 4.43**Number of Periods/Week for Art and Craft Teaching**

Year	Lower Primary	Upper Primary		
	Std. I-III (30 min Periods)	Std IV-V (40 min and 35 min Periods)	Std VI-VII	Std VIII
1976	4	4	4	-
1992	3	4	7	7

Sources: *Republic of Kenya, 1992; Ministry of Education, Kenya, 1976.*

periods compared to three (3) periods per week. Yet the syllabus for the previous system was less demanding as seen from the analysis of the objectives provided at the beginning of this section. Although there are fewer periods at the upper primary level for the previous 7-4-2-3 education system, that is, four (4) periods compared to seven (7) for the 8-4-4 programme, the content is much more and has a wider variety of topics as explained above. The additional three (3) periods would not be adequate to cover well all the additional topics. In addition, given the demanding objectives of the 8-4-4 A & C curriculum right from standard one as discussed above, the time provided is inadequate to deal with the subject matter effectively towards the attainment of those objectives. Moreover, the 8-4-4 A & C content is quite wide and detailed, and would require more time than that provided. It is also important to point out that the 8-4-4 curriculum as a whole is broader by design than the previous 7-4-2-3 education system as highlighted before in this report. It is therefore not possible to increase the number of periods excessively for any one subject, since one has to consider all the subjects in the curriculum. Hence, from the foregoing analysis, it is evident that the 8-4-4 A & C curriculum content is much more demanding than for the previous system, and as reported by the teachers and the learners, it is difficult to complete the syllabus with ease.

4.7.4 Remedies Taken by Teachers in dealing with Inadequate Facilities

Teachers have dealt with the issue of lack of workshops, equipment, tools and inadequate materials for the teaching of Art and Craft in a variety of ways. To start with, teachers did not consider the lack of a workshop as a major drawback for the teaching-learning process compared to lack of equipment, tools and materials. About half of the teachers (54.8 percent) reported that they carried out the practical sessions outside the classrooms, which worked out well for most of the year, except when it rained, in which case they would use the classrooms as much as possible. The major problem was therefore the lack of materials. Table 4.44 summarises the remedies the teachers utilised, in an attempt to overcome this problem.

Improvisation was ranked as the most important remedy utilised by teachers. The need to improvise is understandable given the inadequate facilities in schools. However, one of the major consequences of inadequately trained teachers is their inability to improvise and use local materials. This study has established that teachers were unable to improvise, partly because of inadequate training, and partly because of shortage of time due to other curriculum requirements.

In an earlier study in Kenya, Mbuga (1986) had observed that secondary school teachers in art and design were unable to improvise in many cases, because they were not sufficiently exposed to art education. For this reason, a different approach to training Art and Craft teachers needs to be sought to ensure better qualified teachers who have the ability to manoeuvre the environment for the benefit of the pupils, particularly when resources are scarce.

Table 4.44

**Remedies Utilized by Teachers in Cases of Inadequate Art
and Craft Equipment, Tools and Materials**

N = 62 Teachers

Remedy	No. of Teachers	Percentage
Improvisation	33	53.2
Parents buy Materials	13	21.0
Avoid Practicals	13	21.0
Borrow from other Schools	6	9.7
Teacher Demonstrations	5	8.1

Note. Some teachers reported more than one remedy, hence the percentages add up to more than 100.

The other remedies such as requesting parents to buy materials for Art and Craft were taken by relatively few teachers. For example, only 9.7 percent bothered to borrow from other schools. This could also mean that other schools were just as handicapped as they were in the area of facilities. Furthermore, teacher demonstrations were very limited, with only 8 percent of the teachers taking the option. On the whole, it appears that it was difficult for the teachers to handle inadequate facilities. Hence the need for those concerned: the Government, the parents and the communities, to try and provide the necessary facilities to ensure that learners benefitted as much as possible from the programme.

Following are the teachers' suggestions that would help in the improvement of the teaching and learning of Art and Craft.

4.8 Suggestions for Improving the Teaching and Learning of Art and Craft

Teachers made suggestions for improving the teaching and learning of Art and Craft. These suggestions are summarised in Table 4.45.

As far as the teachers were concerned, the most important strategy was one that would help improve their competence in the teaching of Art and Craft. To this end, 53.2 percent of them suggested more in-service courses for Art and Craft teaching. It has been pointed out earlier that although the majority of teachers were trained at college, they still felt inadequately prepared to teach Art and Craft. In this regard, they proposed that the training and teaching of Art component should

Table 4.45

Teachers' Suggestions for Improving the Teaching and Learning of Art and Craft

N = 62

Suggestion	No. of Teachers	Percentage
Organizing in-service courses for the teaching of A & C	33	53.2
Provide workshops, tools and equipment for A & C	31	50.0
Increase time allocated for A & C	30	48.4
Decrease the A & C content	21	33.9
Allow for choice of subjects	17	29.1
Provision of appropriate text books	10	16.1
Break-down the syllabus	9	14.5
Improve ways of assessing the subject	8	12.9
Creating more post-primary opportunities for A & C	7	11.3
Identify gifted children and encourage them	5	9.7
Recruit expert Artisans	4	6.5

Note. The above suggestions were compiled from teachers' responses to an

be differentiated from that of Craft component, and more attention be paid to the former, which was more technical, in the teachers' opinion. They also said that there was more help available for handling of crafts from the local craftspeople, as opposed to handling of the Art component. Additionally, some of the teachers proposed recruiting of expert artisans and giving them communication/teaching skills, so that they could assist in the teaching of the subject.

To solve the problem of inadequate time for Art and Craft, some teachers (48.4 percent) suggested an increase in the time allocated for Art and Craft to ensure that there was time for practical work. On the other hand, some teachers (33.9 percent) suggested decreasing the Art and Craft content. In addition, another interesting suggestion was the possibility of providing choice of subjects, particularly at the upper primary classes. The teachers argued that this measure would reduce the number of subjects per pupil and subsequently, solve the problem of inadequate time. About 20 percent of the teachers provided this suggestion, which may be worth considering.

A few teachers proposed creation of more post-primary opportunities for Art and Craft related courses and activities. Although this suggestion was made by only 11.3 percent of the respondents, it is of major concern since at high school level there are very few schools that offer Art (Gombe, 1990). Therefore, highly gifted and talented children in Art and Craft may not be getting opportunities to continue with the subject after the primary level. This may also contribute to the

pupils not putting much effort in the subject since there are limited future opportunities for the subject.

In as far as the text books were concerned, 16.1 percent of the teachers emphasized the issue of appropriate text books. Many teachers were unhappy with some of the titles on the market and requested guidance in this area as pointed out in the preceding section.

4.9 Summary of Research Findings

Data from the pupils' questionnaires shows that the mean age of the pupils was 15 years, with a range of 13 to 21 years. With regard to the parents' occupations, 45 percent of the fathers were peasant farmers while 64 percent of the mothers were either housewives or peasant farmers. Very few of the parents were found to be *professionals*.

Pertaining to the teachers, majority of them (66 percent) were found to be relatively youthful, that is, under 35 years of age. Additionally, they were predominantly male, with only 14 percent of them being female.

Ninety percent of the teachers had attained 'O' level qualifications. Besides, 93.5 percent of them were professionally trained, with 87 percent of them having PI qualifications and above. However, most of them (84 percent) felt inadequately prepared to teach the Art and Craft subject.

In regard to pupils' performance and the extent to which the schools were equipped to offer Art and Craft, the study found that there was a significant relationship between the two variables. However, the relationship was a weak one especially for the theory component.

On the issue of pupils' performance in relation to urban versus rural schools settings, the results indicate that the urban pupils outperformed those in the rural settings for the theory component. Conversely, the rural pupils' performance in the practical aspect was found to be better than that of their urban counterparts. The study also found that the boarding pupils outperformed the day scholars in both the theory as well as the practical aspects of the subject.

With regard to pupils' performance in Art and Craft in relation to gender, there was no significant difference found between the boys and the girls for the theory performance. However, boys outperformed the girls in the practical aspect of the subject.

Regarding pupils' attitudes towards Art and Craft, the study found that the majority of the pupils (88 percent) had positive attitudes towards the subject. Additionally, the study found that there was no significant difference in pupils' attitudes towards Art and Craft in relation to rural versus urban school settings, gender; and parental occupations. However, the study found a significant difference between the attitudes of the day scholars compared to boarders, with the former having more positive attitudes.

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Regarding problems affecting the teaching and learning process of Art and Craft, both the pupils and the teachers generally agreed on what they considered to be the most acute problems. These problems included; inadequate/lack of equipment, tools and materials, shortage of text books, and inadequate time to cover the syllabus in view of the loaded primary school curriculum. Specifically, pupils were most concerned that there was too much school work for them, while the teachers highlighted inadequate training for the teaching of Art and Craft.

Teachers' suggestions for the improvement of the teaching and learning of Art and Craft included more in-service courses, provision of facilities, reduction of the Art and Craft syllabus content, as well as reduction of the overall curriculum load for the 8-4-4 primary education.

CHAPTER FIVE

5.0 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of the study, conclusions drawn from the findings of the study, and recommendations for possible action and for further research.

5.2 Summary

The main aim of this study was to investigate pupils' Art and Craft performance and their attitudes towards the subject at the end of the primary cycle of the 8-4-4 system of education in Embu District, Kenya. The impetus for the study was the continuous criticism and debate on the achievability of the objectives of prevocational education programmes in schools, both locally and internationally, with special reference to the 8-4-4 Art and Craft programme in Kenya. The target pupil population was the 1991 Standard eight class in primary schools of Embu District.

The two dependent variables, performance and attitudes, were investigated in relation to selected school and pupil characteristics and various socio-economic factors. The main school characteristic was the extent to which a school was equipped to offer Art and Craft. With regard to pupil characteristics, gender was

the independent variable selected for the study, while among the socio-economic factors, the following were considered: first, the type of school environment, whether rural or urban, and whether boarding or day; secondly, parental occupations, which were presumed to be generally pegged to the parents' level of education.

Thus, the objectives of this study were: (1) to determine the level of performance attained by pupils in Art and Craft in relation to the extent to which schools were equipped to offer Art and Craft, the type of school, whether urban or rural, boarding or day, pupils' gender, and parental occupations; (2) to investigate pupils' attitudes towards Art and Craft in relation to the extent to which schools were equipped, type of school, pupils' gender, and parental occupations; and (3) to identify the problems affecting the teaching and learning of Art and Craft in schools.

A two-stage stratified probability sampling procedure was employed in which a sample of schools was first selected. This was followed by a second stage where pupils and teachers were selected. Purposive random sampling procedure was used in some instances to ensure special categories of schools, such as "boys only" boarding schools, were included in the sample. A total of 36 schools, 408 pupils and 62 teachers were used in the study.

There were three main sources of data: the standard eight pupils, teachers who taught Art and Craft in standard eight classes, and results from the assessment of Art and Craft for both the theory and the practical components. Theory scores

were obtained from Kenya National Examinations Council, that is, the results of the KCPE Art and Craft examination. There were two sources of scores for the measurement of practical performance, which was delimited to the "quality" of the projects presented for examination. The two sources were: the results of the Continuous Work Assessment by the Ministry of Education, referred to as CWA scores in this study, and scores obtained through the use of technical experts deployed for the study as research assistants, (TE scores).

Collection of data was done through the use of pupils' and teachers' questionnaires, an assessment schedule for the practical projects and an observation schedule for the facilities in schools. A Likert-type attitude scale was used to investigate pupils' attitudes towards Art and Craft.

Both descriptive and inferential statistics were used to analyse the data obtained. In particular, the chi-square and the t-test statistics were used to establish the relationships and differences between the various variables. Specifically, the chi-square test was used for hypotheses H_1 and H_2 , $H_9 - H_{12}$ and $H_{16} - H_{17}$, all of which involved grouping data into three (3) or more categories for each of the variables. The t-test, on the other hand, was used with the remaining hypotheses: $H_3 - H_8$ and $H_{13} - H_{15}$, which sought to establish whether there were differences in performance and attitudes, for two groups of pupils as specified in the hypotheses.

5.2.1 Findings on Pupils' Performance in Art and Craft

The overall performance was such that both the theory and the technical experts (TE) scores for the practical projects displayed fairly normal statistical curves (see Table 4.16). However, the Continuous Work Assessment (CWA) scores obtained by the Ministry of Education officials were highly skewed to the left, with 99.0 percent of the pupils in the sample obtaining A and B grades, that is, above average performance. Only 1.0 percent of the pupils attained grade C, while none of them were in the D or E grade categories (see Table 4.17). In addition, the mean score for the CWA assessment was 76.7 percent compared to 54.8 percent for the TE scores, and 55.3 percent for the theory scores. The excessively high CWA grades raised questions and doubts concerning the reliability and validity of the assessment process. Hence, the CWA scores were not used for further analysis and discussion in the study. The TE scores, therefore, represented the practical performance for this study.

5.2.1.1 Pupils' Performance in Relation to Adequacy of Facilities

With regard to adequacy of facilities, the study found that there was a significant relationship with performance, for both the theory and the practical components of the subject. However, the relationships were shown to have been

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relatively weak, with Cramer's values of 0.17 and 0.26, for theory and practical scores, respectively.

The weak relationship between performance and status of facilities was attributed to other factors that influence the teaching-learning process, including teachers' interests and commitment, as well as pressure of the KCPE Examination. Consequently, in general, the available facilities in schools were found to have been underutilized, as teachers concentrated on drilling pupils to pass the Examination. Some of the teachers also reported that they felt ill-prepared to teach Art and Craft, and were unable to use some of the equipment and tools. On the other hand, it is important to point out that the number of schools with sufficient facilities for Art and Craft comprised only about 15 percent of the sample schools, while the rest (85 percent) did not have adequate facilities, or had none at all.

5.2.1.2 Pupils' Art and Craft Performance with Respect to Rural-Urban

School Settings

The results of this study lend support to hypotheses H_3 and H_4 , regarding pupils' performance in relation to rural and urban school environments. For the theory component, pupils from urban schools outperformed those from rural schools, while for the practical performance, the converse was true. The superior theory performance was attributed to better facilities in the urban schools, and probably a higher calibre of teachers in terms of training and experience. The

facilities would have enabled the pupils to understand the theory content better. On the other hand, the finding that rural pupils outperformed those from urban schools in practical work suggested that there were more Art and Craft activities in the rural schools, mainly through improvisation.

5.2.1.3 Pupils' Art and Craft Performance in Relation to Day versus Boarding School Pupils

The study results show that there was a significant difference between the performance of boarding schools' pupils and that of day scholars, in both the theory and the practical components of Art and Craft. In this case, the boarders outperformed the day schools' pupils. The difference was attributed to the availability of more study time to the boarding pupils compared to the day school pupils.

5.2.1.4 Pupils' Art and Craft Performance with Respect to Gender

This study has demonstrated that for the theory performance, there is no significant difference between the performance of girls and that of boys. However, for the practical performance, the results indicated that there was a significant difference between the boys' and girls' performance, with the former outperforming the latter.

The better performance of the boys was attributed to the traditional gender differentiation in arts and crafts activities. Additionally, the boys had more time available to them for studies compared to the girls, due to the latter's involvement in household chores particularly for the day school pupils.

5.2.1.5 Pupils' Art and Craft Performance in Relation to Parental Occupations

This study has demonstrated that there is no significant relationship between the pupils' Art and Craft performance and parental occupations. The finding was attributed to the generally low literacy level of the parents, in addition to the complexity of the Art and Craft content. These factors limit the parents involvement in their children's school work, and hence the lack of a significant relationship between the two variables.

5.2.2 Findings on Pupils' Attitudes towards Art and Craft

Pupils' attitudes towards Art and Craft were investigated from a general perspective first, and then in relation to rural-urban and day-boarding school settings, pupils' gender, and parental occupations.

This study has demonstrated that on the whole, pupils' attitudes towards Art and Craft were positive. This is supported by the large percentage of pupils in the sample, eighty-eight (88) percent, who demonstrated that they had positive attitudes

by scoring between sixty one (61) and one hundred (100) points in the attitude test.

The minimum score for the attitude test was twenty (20) points, and the maximum was one hundred (100) points as explained in Chapter Three. Only 8.8 percent of the pupils had negative attitudes towards Art and Craft.

5.2.2.1 Pupils' Attitudes towards Art and Craft in Relation to Rural - Urban School Settings

From the results of this study, hypothesis 13 which stated that "there is a significant difference in attitudes towards Art and Craft between pupils from urban schools and those from rural schools," was rejected at the 0.05 level of significance.

This finding was found to be interesting because pupils from rural schools were expected to have had more positive attitudes towards Art and Craft compared to those from the urban schools. This supposition was based on the fact that there are more activities associated with Art and Craft in the rural areas compared to the urban areas. Children's involvement in these activities could result in a liking for the activities and consequently, the Art and Craft subject. Thus, the rural schools' pupils would develop more positive attitudes towards the subject. However, the finding suggests that probably, the new status the subject holds due to the examination element may affect the pupils' attitudes almost equally for the two school environments.

5.2.2.2 Comparison of Attitudes towards Art and Craft for the Day and Boarding School Pupils

The results of this study show a clear difference between the attitudes for the day and boarding school categories of pupils at the 0.05 level of significance. In this case, the day pupils displayed more positive attitudes compared to the pupils from boarding schools. The possible explanation put forward for this was that boarding school pupils are likely to come from homes of higher socio-economic backgrounds than those of the day scholars, given the higher costs for boarding compared to the day school fees. It is also likely that many of the boarders were from urban settings, where children are likely to be involved less with activities related to Art and Craft; hence, the more positive attitudes of the day school pupils towards Art and Craft compared to the boarders.

5.2.2.3 Pupils' Attitudes towards Art and Craft in Relation to Gender

There was no significant difference found between the boys' and the girls' attitudes towards Art and Craft. The possible reason for this finding was that the pupils of both genders had been exposed to the subject equally from an early age of about six years, in standard one. That is, both boys and girls performed similar activities in school, and are likely therefore to have had similar attitudes.

5.2.2.4 Pupils' Attitudes towards Art and Craft with Respect to Parental

Occupations

This study has established that there was no significant relationship between pupils' attitudes towards Art and Craft and parental occupations. There was, however, an observation that the mean attitude scores for pupils whose fathers were peasant farmers was higher at 82.2 than the mean attitude score of 80.2. Similarly, it was found that pupils whose mothers were peasant farmers or housewives obtained relatively higher attitude scores of 80.7 and 81.5, respectively, compared to the mean score of 80.2. In both cases, that is, with regard to the fathers and the mothers, it was found that children whose parents were in business scored lowest in the attitude scale. However, these differences were minimal and not significant according to the results of the chi-square tests.

5.2.3 Problems of Teaching and Learning Art and Craft

The major problems identified in this study that hinder the teaching-learning process for Art and Craft include the following:

1. the acute shortage of facilities: workshops, equipment, tools and materials;
2. inadequately prepared teachers;
3. lack of/inadequate text books;

4. inadequate time for teaching Art and Craft, particularly the practical component, in view of the broad 8-4-4 primary education curriculum;
5. difficulty level of some of the concepts in the syllabus, particularly the Art component;
6. pressure due to the KCPE examination, necessitating emphasis on examinable aspect of the subject, that is, the theory component;
7. lack of interest in the subject on the part of some teachers and pupils; and
8. Too much content in the Art and Craft Syllabus.

One of the most unique problems relates to the quality of teaching. This study has established that the majority of the Art and Craft teachers felt very inadequate in dealing with the subject, despite the fact that most of them had been trained in the teacher training colleges. The curriculum at the TTCs was too broad to be covered effectively within the given period of two years. Unfortunately, opportunities for in-service courses for the Art and Craft teachers were inadequate. This situation suggests that a different approach to training of teachers of Art and Craft is warranted.

The other important factor that was found to hamper the teaching and learning of Art and Craft was the KCPE examination. The examination pressure resulted in compromising the teaching of the practical component by teachers concentrating on teaching the theoretical cognitive skills towards passing KCPE. This affected practical performance in the subject.

The problems cited by pupils and teachers in this study were similar to those found by other scholars performing similar research in other parts of Africa, such as Asihene (1973) and Talabi (1979). These findings seem to suggest that the teaching of Art and Craft has been, and may continue to be, a major problem in Kenya, the rest of Africa, and possibly other developing countries, particularly due to inadequate resources.

5.3 Conclusions

5.3.1 Conclusions on Pupils' Performance in Art and Craft

Testing of the hypotheses H_1 and H_2 on the relationship between performance and adequacy of facilities showed that performance for both the theory and practical components of Art and Craft was significantly related to the status of facilities in schools. However, the relationships were found to be weak. It was therefore concluded that good performance in Art and Craft is dependent on both the adequacy of facilities and appropriate use of available facilities.

With regard to the practical component, pressure of the KCPE Examination impacted negatively on the time devoted to practicals. The competitiveness of the examination nationally further complicated the situation. And closely related to the pressure of the KCPE examination is the pupils' aspirations for secondary and higher education. The study found that these aspirations were very high which meant that the pupils concentrated their efforts on the theory component of Art and

Craft. It was therefore concluded that these aspirations were a major hindrance in pupils' efforts to excel in the practical aspect of Art and Craft, which does not count towards upward mobility on the education ladder. For these reasons, practical Art and Craft was given a lower priority than the theory component. The lower status given to practical Art and Craft in turn may have affected performance in the subject.

Analysis of data on teachers' preparedness for the teaching of Art and Craft revealed that most of the teachers who taught Art and Craft (93.5 percent), had gone through professional training in the teacher training colleges. Despite their professional training as teachers, most of them felt inadequately prepared to teach Art and Craft. Furthermore, evidence from both their primary and secondary education demonstrated that most teachers had very limited knowledge and skills in Art and Craft and related subjects. It is therefore concluded that teachers' lack of a sound background in Art and Craft and related technical subjects before greatly affected their professional preparedness to teach Art and Craft.

Concerning the issue of pupils' performance with respect to urban versus rural school settings, the study found that pupils from urban schools outperformed those from rural schools in the theory aspect of Art and Craft. However, for the practical aspect of Art and Craft, rural schools' pupils outperformed those from urban schools, despite the finding that the former schools generally had poorer facilities to teach Art and Craft than the latter. It was therefore concluded that the available facilities were not effectively used in the schools. Secondly,

improvisation can be quite effective in the teaching and learning of the subject, as long as the teachers have the creative ability, interest in, and commitment to their profession.

Regarding the gender factor in performance, it was established that there was no significant difference in the theory performance between boys and girls. However, for the practical performance, boys outperformed the girls. This was attributed to the traditional practices whereby arts and crafts activities were differentiated along gender lines. Further, the study found that most of the Art and Craft syllabus topics are drawn from those activities which were traditionally male. Additionally, it was found that generally the practical work was done outside of school time; a time when the girls were usually busy assisting with household chores. On the whole, boys have more study time available to them at home compared to the girls. For the above stated reasons, the girls' practical performance was poorer than that of the boys.

The study has also established that there was no significant relationship between parental occupations and performance in Art and Craft. This finding is attributed to the fact that many of the pupils' fathers in Embu District, forty-five (45) percent, were peasant farmers, while about sixty-four (64) percent of the pupils' mothers were either peasant farmers or housewives. These categories of parents are likely to have considerably less education than parents in other occupations, and may therefore have had very little effect on their children's performance in the subject.

Given that some areas of the Art and Craft content were reportedly difficult for some of the teachers, it is even more likely that the content is beyond comprehension for most of the parents. It was therefore concluded that in the current system of education, parents, both literate and illiterate, may not be able to assist their children effectively in the study of Art and Craft, and hence, would not significantly influence their performance.

5.3.2 Conclusions on Pupils' Attitudes towards Art and Craft

This study has shown that, generally, the pupils' attitudes towards Art and Craft were positive. Eighty-eight percent (88%) of the pupils demonstrated positive attitudes. The fact that the subject is compulsory and examinable in the 8-4-4 primary education may have contributed to the pupils' positive attitudes, given that earlier studies (before Art and Craft became an examinable subject) seemed to suggest negative attitudes towards the subject at the end of the primary cycle. There is, therefore, potential for utilizing those positive attitudes in developing the subject.

With regard to attitudes in relation to day and boarding school pupils, the study has established that the day pupils had more positive attitudes towards Art and Craft compared to the boarders. The main reason suggested for this finding was that the day scholars were more involved with the day to day activities associated with Art and craft and therefore, would develop more positive feelings

towards the subject. It was therefore concluded that more exposure to activities related to Art and Craft, both within and outside the school, facilitates the improvement of attitudes towards the subject. In that context, more practical work in Art and Craft would also contribute to the improvement of pupils' attitudes towards the subject.

This study has shown that there is no significant difference between boys' and girls' attitudes towards Art and Craft. This suggests that inherently, there is not much difference between the sexes, if any, with regard to their potential for liking the subject. This potential can therefore be exploited for the advantage of both sexes for improving performance in Art and Craft.

Parental occupations were found to have no significant relationship with the pupils' attitudes towards Art and Craft. This was attributed to the parents' inability to comprehend the content of the Art and Craft subject. Therefore, parental influence on pupils' attitudes was limited mainly due to their unfamiliarity with the subject.

5.4 Recommendations

The following recommendations are based on the findings and conclusions of the study:

1. Good performance in Art and Craft was found to be dependent on adequacy of facilities to some extent, although there was underutilization of the

already available facilities. However, equipping schools with adequate facilities may not be a realizable goal in the near future. It is therefore recommended that improvisation be encouraged in schools. In addition, teachers' ability to improvise must be enhanced by preparing the teachers better for the teaching of the subject.

2. It is also recommended that supervision and inspection of schools by the Ministry of Education be intensified, so that schools with Art and Craft facilities actually make use of them, while those without facilities intensify improvisation. The improved use of facilities will ensure that efforts by parents, communities, the Government, and donor agencies which provide the facilities are not wasted due to underutilization. Additionally, there is need to ensure that teachers in the poorer schools hold practical sessions through improvisation.
3. According to the teachers, training for Art and Craft at the primary teacher training colleges is currently inadequate. It is therefore recommended that special training programmes be designed for people who already have practical skills in arts and crafts. For instance, training graduates from institutes of technology and youth polytechnics would be a step in the right direction. In addition, the in-service programmes should be intensified and made accessible to more teachers. Thus, more opportunities should be

made available for short courses, workshops, and seminars, in which teachers can share experiences in the teaching of various aspects of the subject.

4. To ensure that there is adequate time available for studying Art and Craft effectively, it is recommended that the overall workload for the pupils be reduced. This can be done through provision of choice of subjects at the upper primary level. The reduced workload would facilitate increased practical work and hopefully improve performance.
5. Performance for boarding school pupils was found to be better than that of day pupils. This was attributed to more available study time for the boarders compared to the day scholars. It is therefore recommended that parents of day scholars be sensitized to the need to provide their children with more study time while at home.
6. Efforts should be made by teachers, assisted by the Ministry of Education, to maintain the positive attitudes towards the subject which the majority of the pupils have, and to change negative attitudes of those who are in the minority, according to this study.

One important approach suggested for improving pupils' attitudes is to establish a reward system. For instance, various trophies could be

obtained for achievements in organized competitions, starting from the classroom level, the zonal level, district level, and up to the national level.

7. To enhance pupils' and teachers' interest in the Art and Craft subject, it is recommended that more exhibitions in Art and Craft activities be organized and be made accessible to pupils. Teachers and Ministry of Education officials should take up this responsibility. This would enhance the teaching and learning of the subject and consequently, improve performance by exposing the pupils to a variety of practical activities. In addition, visits to "Jua kali" sheds would be useful for making the subject more practical and interesting.

5.5 Recommendations for Further Research

1. Considering that this study was carried out during the implementation stage of the 8-4-4 education programme, a similar study would be useful when the programme has fully stabilized, with most schools having access to the necessary physical facilities and well trained teachers for the Art and Craft subject.
2. Given that this was a case study focussing on Embu District, a similar study in other parts of the country would be useful for

comparative purposes. Indeed, a nationwide study would be useful, comparing the results in the various regions in the country.

3. This study has shown that there is only a weak relationship between pupils' performance and adequacy of facilities in schools. Since the majority of the schools in the study had very limited facilities or none at all, it would be useful to find out if and how the relationship would change with a higher percentage of well equipped schools.
4. This study investigated a limited number of factors that impact on performance in Art and Craft, namely: adequacy of facilities in schools for Art and Craft, rural-urban and day versus boarding school environments, pupils' gender, and parental occupations. There are, however, several other factors that may influence pupils' performance in the subject, including the quality of the teachers, which can be inferred from their attitudes towards the subject, commitment and job satisfaction among others; administrative set-up, and school-community relations. It would therefore be useful to explore the extent to which these other factors impact on performance in the subject.

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APPENDIX A

OBJECTIVES OF PRIMARY EDUCATION IN KENYA

To provide learning opportunity for the child in a co-ordinated primary education programme to:

1. Lead to the acquisition of literacy, numeracy and manipulative skills.
2. Develop his self expression, self discipline, self reliance and utilization of his senses.
3. Develop ability for clear logical thought and critical judgement.
4. Be exposed to meaningful experiences which will lead to enjoyable and successful learning and the desire to continue learning.
5. Acquire a suitable basic foundation for the world of work in the context of economic and manpower needs of the Nation.
6. Appreciate and respect the dignity of labour.
7. Develop desirable social standards and attitudes.
8. Develop awareness and understanding of his immediate environment and foster positive attitude to other countries and to the international community.
9. Grow into a strong and healthy person.

10. Develop a constructive and adaptive attitude to life based on moral and religious values and his responsibilities to his community and the Nation.
11. Appreciate his own and other people's cultural heritage, develop his aesthetic values and make good use of his leisure time.
12. Grow towards maturity and self-fulfillment as a useful and well adjusted member of society.

APPENDIX B

GENERAL AND SPECIFIC OBJECTIVES FOR ARTS AND CRAFTS

By the end of the Art and Craft course, the learners should be able to use the acquired knowledge, skills, attitudes and experience to:

1. Use creatively varied materials and tools

Specifically: The learner should be able to:

- (a) identify, select and use appropriate materials and tools for specific activities.
- (b) use locally available materials as resource for suggested activities.

2. Express himself/herself visually and communicate effectively.

Specifically: The learners should be able to express their ideas and feelings in two and three dimensional works of Art and Craft.

3. Appreciate their own and other people's artistic and cultural heritage and use that as a source of inspiration for creativity.

Specifically: The learners should be able to transform various materials into functional and aesthetic forms in relation to the physical, social and cultural environment.

4. Appreciate good craftsmanship and make judgements in matters pertaining to aesthetic and functional values of works of Art and Craft.

Specifically: The learners should be able to critically analyse and appreciate works of Art and Craft in relation to design, form and function.

5. Develop an awareness of and positive attitudes towards practical skills and their use in the world of work.

Specifically: The learners should be able to:

- (a) handle varied materials and tools in production of works of Art and Craft of aesthetic and functional values.
- (b) show respect for craftsmen and their works.

6. Enrich their performance in other fields of study

Specifically: The learners should be able to apply the skills, knowledge, concepts and attitudes acquired in Art and Craft.

7. Enrich their performance in other fields of study.

Specifically: The learner should be able to apply the skills, knowledge, concepts and attitudes acquired in Art and Craft activities in the learning of other subjects and vice versa.

8. Co-operate and contribute as members of national and global society.

Specifically: The learners should

- (a) learn to share materials and experiences with other pupils in the class .
- (b) co-operate and contribute as a member of a group.
- (c) participate in Art and Craft competitions both at national and international levels.

APPENDIX C

Table for Determining Sample Size from a Given Population

N	S	N	S	N	S
10	10	220	140	1,200	291
15	14	230	144	1,300	297
20	19	240	148	1,400	302
25	24	250	152	1,500	306
30	28	260	155	1,600	310
35	32	270	159	1,700	313
40	36	280	162	1,800	317
45	40	290	165	1,900	320
50	44	300	169	2,000	322
55	48	320	175	2,200	327
60	52	340	181	2,400	331
65	56	360	186	2,600	335
70	59	380	191	2,800	338
75	63	400	196	3,000	341
80	66	420	201	3,500	346
85	70	440	205	4,000	351
90	73	460	210	4,500	354
95	76	480	214	5,000	357
100	80	500	217	6,000	361
110	86	550	226	7,000	364
120	92	600	234	8,000	367
130	97	650	242	9,000	368
140	103	700	248	10,000	370
150	108	750	254	15,000	375
160	113	800	260	20,000	377
170	118	850	265	30,000	379
180	123	900	269	40,000	380
190	127	950	274	50,000	381
200	132	1,000	278	50,000	382
210	136	1,000	285	100,000	384

Note. *N* is Population Size, *S* is Sample Size. **Source:** Krejcie, R. V. and Morgan, D. (1970). "Determining Sample Size for Research Activities", *Educational and Psychological Measurement*, Vol. 30, No. 3, p. 608.

APPENDIX D

QUESTIONNAIRE FOR PUPILS

This study is concerned with the Art and Craft subject that you have been learning in school. Your participation in the study will be of great help to this country. The findings of this study will be used to suggest to the Government how to improve the 8-4-4 system of education.

There are no correct or wrong answers to the questions. Feel free, therefore, to answer the questions as accurately as possible. Your answers will be treated with confidence and will not be disclosed to your teachers or your headteacher.

PART I

For questions where there are alternative choices, tick (\checkmark) the choices that are applicable for you.

1. Your KCPE Index number _____

Your Sex: Male _____ Female _____

Name of your School _____

Name of your Location _____

Name of your Division _____

2. What is your age ?

_____ Years _____ months.

3. Is your father alive or dead? Alive _____ Dead _____

What is/was his occupation? _____

4. Is your mother alive or dead?

Dead _____ Alive _____

What is/was her occupation? _____

PART II

Each of the following statements requires your opinion or feeling on various aspects of the Art and Craft subject. For each statement, kindly respond by indicating with a tick () whether you strongly agree (SA), agree (A), undecided (U), disagree (D), or strongly disagree (SD) with the statement.

	SA	A	U	D	SD
1. A good primary education must have the Art and Craft subject included.					
2. Art and Craft is a waste of valuable school time.					
3. Art and Craft is fascinating and fun.					
4. Art and Craft scares me very much.					
5. I do not like Art and Craft.					
6. My mind goes blank and I am unable to think clearly when I hear of Art and Craft.					
7. Art and Craft is a boring subject.					
8. The feeling I have towards Art and Craft is a good feeling.					
9. Art and Craft is subject in school that I have always enjoyed studying.					

	SA	A	U	D	SD
10. I am happier in an Art and Craft lesson than in any other lesson.					
11. I feel uncomfortable and restless during Art and Craft theory lessons.					
12. I feel at ease with Art and Craft and I like the subject very much.					
13. I have never liked Art and Craft and it is the subject I hate most.					
14. I feel a definite positive reaction to Art and Craft and it is an enjoyable subject.					
15. I enjoy the theory lessons of Art and Craft very much.					
16. I dislike the practical lessons of Art and Craft.					
17. I dislike the theory lessons of Art and Craft.					
18. I enjoy the practical lessons of Art and Craft very much.					
19. Knowledge and skills gained from Art and Craft are more useful than academic knowledge after school.					
20. Academic subjects are more useful than Art and Craft after school.					

3. With the exception of requisite tools, equipment and materials, what problems did you face in performing your exercises for Art and Craft? You may tick (✓) as many as are applicable.

- a) Shortage of suitable textbooks. _____
- b) Lack of qualified teachers in Art and Craft. _____
- c) Too much school work leaving very little time for Art and Craft. _____

PART III

1. How much time, approximately, do you spend on your Art and Craft practical projects outside class-time every week?

- a) None _____
- b) Less than 1 hour _____
- c) between 1 & 2 hours _____
- d) between 2 & 3 hours _____
- e) between 3 & 4 hours _____
- f) between 3 & 4 hours _____
- g) more than 5 hours _____

2. Did you have enough tools, equipment and materials for your Art and Craft practical work? Please tick (\checkmark) the appropriate answer.

	Adequate	Not adequate
Tools and Equipment		
Materials		

3. With the exception of inadequate tools, equipment and materials, what problems did you face in performing your exercises for Art and Craft? You may tick (\checkmark) as many as are applicable.

- a) Shortage of suitable textbooks. _____
- b) Lack of qualified teachers in Art and Craft. _____
- c) Too much school work leaving very little time for Art and Craft. _____

- d) Teachers are too fast in their teaching. _____
- e) Too many Art and Craft assignments. _____
- f) The content of Art and Craft is too much to be covered within the available time. The teacher always rushes through the topics. _____
- g) The content materials in Art and Craft are too difficult to understand. _____

If there are any other problems related to the Art and Craft subject, list them in the space below: _____

Part IV

1. Do you hope to continue your education in secondary school after completing standard eight?
Yes _____ No _____
2. a) Supposing you were unable to get selected for secondary schooling, what would you like to do instead?
 - i) Take up training related to Art and Craft in a youth polytechnic. _____
 - ii) Take up a job in your locality. _____
 - iii) Start your own business if financial assistance were available to you. _____
 - iv) Work with your parents in their business or farm. _____
 - v) Repeat your KCPE Examination. _____
 - vi) Any other, please specify. _____

b) Give reasons for your choice(s) in 2(a) above.

3. a) What kind of employment activities requiring Art and Craft skills are common in your locality? (You may tick (✓) more than one).

i) Leather work _____

ii) Carpentry _____

iii) Painting _____

iv) Welding _____

v) Building construction _____

vi) Basketry _____

vii) Carving _____

viii) Drawing and designing. _____

Any other(s), please specify. _____

b) How did you learn about those employment activities? (You may tick (✓) more than one.)

i) Informed by your teacher

ii) Informed by your friends

iii) Informed by your parents

iv) Learnt about them through your own efforts.

v) Any other source of information, please specify.

4. a) What kind of job activities among those you have listed in 3(a) above would you like to be engaged in if you were given an opportunity? List as many as you would like, in order of preference. If you do not like any of them, write NONE. _____

b) Give a reason for your answer in 4(a) above. _____

- 5.a) Which job, requiring Art and Craft skills, do you think your schooling has best prepared you for? _____
- b) Explain your answer. _____
6. What suggestions do you have that would help improve the teaching and learning of Art and Craft for future groups of pupils? _____

Thank you.

PART 2

1. Name of school _____
2. Name of location _____
3. Name of District _____
4. Sex of the Teacher- Male _____ Female _____
5. What is your marital status?

Married _____	Single _____
Widowed _____	Divorced _____

APPENDIX E

QUESTIONNAIRE FOR TEACHERS OF ART AND CRAFT

This study attempts to assess the extent to which Primary School pupils have achieved the goals of practical education in the Art and Craft syllabus of the 8-4-4 system of education. The factors that may be affecting the achievement of the goals will also be examined.

It is hoped that the findings of this study will be used to assist teachers and education planners in the country to handle the teaching of the subject. Your experiences as a teacher in these initial stages of the programme's implementation will be of great value to this study. Please feel free to answer the questions to the best of your ability. Your answers will be treated with utmost confidence.

Thank you.

PART I

1. Name of school _____
2. Name of Location _____
3. Name of Division _____
4. Sex of the Teacher: Male Female
5. What is your marital status?

Married	<input type="checkbox"/>	Single	<input type="checkbox"/>
Widowed	<input type="checkbox"/>	Divorced	<input type="checkbox"/>

6. What is your age?

___ years ___ months.

7. What is your professional status?

	Time taken (Years & Months)
(a) Graduate/Approved Teacher	___
(b) Diploma/SI	___
(c) P1	___
(d) P3	___
(e) P4	___
(f) UT	___
Any other, please specify.	

8. What is your highest academic qualification?

- (a) Graduate ___ (d) KJSE ___
 (b) KACE/'A' Level ___ (e) CPE/KCPE ___
 (c) KCE/'O' Level ___ (f) Other, please specify.

9. How long have you been in the teaching profession?

___ years ___ months

10. How long have you been teaching the Art and Craft subject?

___ years ___ months.

Part II

1. (a) Did you do Art and Craft in your primary education?

Yes -- No

(b) If YES, state the Art(s) and Craft(s) that you did, and for how long.

Art/Craft	Time taken (Years & Months)
Carpentry	
Leatherwork	
Basketry/Weaving	
Building Construction	
Painting	
Sculpture/Pottery	
Graphic design	

Any other(s) please specify _____

2. (a) Did you do any technical/practical courses related to Art and Craft in your high school?

Yes ___ No ___

(b) If YES, state the areas of study that you did and for how long.

<u>Area of Study</u>	<u>Duration of Course</u>
Carpentry & Joinery	_____
Mechanical engineering	_____
Building Construction	_____
Fine Art	_____
Woodwork	_____
Metal Work	_____

None at all _____

Any other(s) please specify. _____

3. (a) Have you been trained to teach Art and Craft?

Yes ___ No ___

(b) If yes, was the training pre-service or in-service?

Pre-service ___ In-service ___

Any other(s) please specify.

4. (a) Do you feel that the training was sufficient for you to teach the practical content of Art and Craft within the 8-4-4 syllabus?

Yes ___ No ___

(b) Give reasons for your answer.

5.(a) How many times in the last five years have you attended a seminar, workshop, or an in-service course for teaching Art and Craft?

(i) Once ___ (iii) Three times ___

(ii) Twice ___ (iv) Four times ___

(v) Not at all. ___

(b) If you attended some courses, what was the duration for each?

(c) How do you rate the course(s)?

Very useful	Useful	Not Useful

None at all _____

Any other(s) please specify. _____

3. (a) Have you been trained to teach Art and Craft?

Yes ___ No ___

(b) If yes, was the training pre-service or in-service?

Pre-service ___ In-service ___

Any other(s) please specify.

4. (a) Do you feel that the training was sufficient for you to teach the practical content of Art and Craft within the 8-4-4 syllabus?

Yes ___ No ___

(b) Give reasons for your answer.

5.(a) How many times in the last five years have you attended a seminar, workshop, or an in-service course for teaching Art and Craft?

(i) Once ___ (iii) Three times ___

(ii) Twice ___ (iv) Four times ___

(v) Not at all. ___

(b) If you attended some courses, what was the duration for each?

(c) How do you rate the course(s)?

Very useful	Useful	Not Useful

6. (a) Is there a workshop in your school for Art and Craft?

Yes _____ No _____

(b) If there is no workshop in your school,

(i) Where do you conduct your practical lessons?

1. In the classroom _____

2. Outside the classroom _____

Any other place, please specify _____

(ii) What are the plans for building one?

7. List all the essential equipment/tools needed for Art and Craft, and indicate how many you have in your school.

(i) **Craft**

Name of Equipment/ Tools	Number required	Number available

(ii) **Art**

Name of Equipment/ Tools	Number required	Number available

8. (a) How adequate are the materials for the pupils in your class(es)

Adequate	Not Adequate

(b) If NOT ADEQUATE, what do you do to solve the problem?

9. (a) Does the school have any Art and Craft text books?

Yes ___ No ___ Don't know ___

(b) If YES, list the titles and indicate the number required and the number available for your class(es):

Title of Text Book	Number required	Number available

10. (i) How much time is allocated in your school timetable for Art and Craft in the following classes?

1. Standard 1-3 ___ periods per week
2. Standard 4, 5 and 6 ___ periods per week
3. Standard 7 and 8 ___ periods per week.

(ii) Is the time allocated always used for Art and Craft teaching?

Yes ___ No ___

Explain your answer.

(iii) (a) Do you feel that the time allocated is adequate to cover the syllabus adequately? Yes ___ No ___

(b) If your answer was no to (iii) (a) above, what remedies would you propose?

A. An increase in allocated time _____

B. A decrease in the content _____

Any other(s), please specify. _____

(c) How much time do you estimate the standard 7 and 8 pupils spend on homework activities every week on average in

(i) Art and Craft ___ hours/week.

(ii) Other academic subjects ___ hours/week/subject.

Suggest a reason for the length of time pupils spend in Art and Craft, compared to other academic subjects.

11. (a) Of the projects the pupils do outside of school, how much of the work is done by the pupils, in your opinion?

under 25% _____

26 - 50% _____

51 - 75% _____

Over 75% _____

Do not know _____

Explain your answer. _____

(b) (i) If some of the work is not done by the pupils, who do you think may be helping them? You may tick (√) as many as applicable.

- 1. Parents _____
 - 2. Elder brothers and sisters _____
 - 3. Professional Craftsmen/Artists in the locality _____
- Any other(s), please specify _____

(ii) Why do you think so?

12. (a) Have you incorporated the local Craftsmen in your teaching of Art and Craft?

Yes _____ No _____

(b) If yes, in which Art and Craft have you involved them?

(c) How do you assess the contribution of local Craftsmen in teaching?

Very Effective	Effective	Not Effective

Explain

13. (a) What major skills do the pupils acquire
in school while learning?

(i) Art _____

(ii) Craft _____

(b) Do you think that those practical skills acquired while in school could
enable the pupils to enter the world of work directly after leaving school?

Yes ___ No ___

(c) Explain.

(d) What suggestions would you give to boost the pupils' skills while in
school?

14. (a) What would you say regarding the SCOPE of the content in Art and Craft
Syllabus?

Too little ___ Much ___

Little ___ Too much ___

Just right ___

State why. _____

(b) (i) Are there any areas of the content which, in your opinion, are irrelevant
or superfluous, and could be omitted from the curriculum without any
adverse consequences? Yes ___ No ___

(ii) Explain. _____

15. What would you say about the level of difficulty of the content in Art and Craft for your pupils?

	Too Difficult	Difficult	Not Difficult
Art			
Craft			

Explain your answer. _____

16. (a) What training opportunities are available for the pupils when they leave school to improve on the skills already learnt in school?

- (b) Are the pupils made aware of these opportunities before they leave school?

Yes ___ No ___ Don't Know ___

Explain _____

17. (a) What kind of self-employment activities related to Art and Craft are common in the locality around the school?

Carpentry _____

Watch repairing _____

Masonry/Construction work _____

Motor Mechanics _____

Weaving and Basketry _____

Any other(s), specify. _____

(b) Are your pupils aware of them?

Yes ___ No ___ Don't know ___

18. (a) Which of the Art and Craft practical skills taught in school have the best chances for wage-employment in the community?

(b) Which of the Art and Craft practical skills have the best chances for self-employment?

19. In your opinion, do you feel that the primary school leavers are in a position to take up employment after school?

Yes ___ No ___

Give reasons for your answer. _____

If there is anything else you would like to say about the Art and Craft programme which would help improve the programme, write it down in the space below.

Thank you for your co-operation.

APPENDIX F

ASSESSMENT SCHEDULE FOR PRACTICAL SKILLS IN ART AND CRAFT

Attached is the format for the assessment of practical skills which was used by the technical experts who participated in the study. The format was adopted from the forms used by the Inspectorate section, Ministry of Education, in the Continuous Work Assessment. It was also based on the projects that the standard eight pupils were assigned to prepare, specifically for the assessment of the practical component at the end of the eight-year primary cycle. The items were produced mainly during the eighth year, but some projects began during the seventh year.

If in the opinion of the technical expert the project was not genuinely done by the pupil, the project was disqualified.

Finishing	1	
TOTAL MARKS	25	

PROJECT 1 - BASIC BUILDING CONSTRUCTION

Does the project appear to be genuinely the work of the pupil?

Yes No

ASSESSMENT OF PRACTICAL SKILLS - ART AND CRAFT**CRAFT EDUCATION**

Name of the Pupil _____

Pupils' Index No. _____

PROJECT 1 - METAL WORK

Does the project appear to be genuinely the work of the pupil?

Yes _____ No _____

<u>SKILLS</u>	MAXIMUM SCORE (Marks)	ACTUAL SCORE (Marks)
Marking and cutting out the work piece	4	
Soldering the joints	10	
Workmanship	7	
Finishing	4	
TOTAL MARKS	25	

PROJECT 2 - BASIC BUILDING CONSTRUCTION

Does the project appear to be genuinely the work of the pupil?

Yes ___ No ___

SKILLS	MAXIMUM SCORE (Marks)	ACTUAL SCORE (Marks)
Squareness	10	
Curing	7	
Storing	3	
Finishing	5	
TOTAL MARKS	25	

ART EDUCATION

PROJECT 1 -PAINTING

Does the project appear to be genuinely the work of the pupil?

Yes No

SKILLS	MAX. SCORE (Marks)	ACTUAL SCORE (Marks)
INTERPRETATION Relevant Interpretation of subject matter.	2	
The extent of imagination, originality or creativity portrayed in the work.	3	
Creation of mood or feeling by the work of Art.	2	
TOTAL MARKS	7	

PROJECT 2: -SCULPTURE/POTTERY

Does the project appear to be genuinely the work

of the pupil? Yes No

SKILLS	MAXIMUM SCORE (Marks)	ACTUAL SCORE (Marks)
COMPOSITION Balanced arrangement of parts of Artwork	3	
Appropriate use of space or format	2	
TOTAL	5	
FORM/STRUCTURE Accurate definition of form	3	
Proportion (size) of forms in relation to each other in the Artwork	2	
Proportion within each form	2	
TOTAL MARKS	7	
TONE/COLOUR Effect of tone/colour on form (suitability)	3	
Tonal/colour harmony or distribution	2	
TOTAL MARKS	5	
CRAFTSMANSHIP Competence in the use of media and tools	2	
Suitability of completed Artwork to function	2	
TOTAL MARKS	4	
Completion (finishing the Artwork)	2	

PROJECT 2: - SCULPTURE/POTTERY

Does the project appear to be genuinely the work

of the pupil? Yes ___ No ___

SKILLS	MAXIMUM SCORE (Marks)	ACTUAL SCORE (Marks)
Effort (Sustained interest to completion of article)	3	
INTERPRETATION		
Transformation of raw materials to subject matter	3	
Creativity in the treatment of Article	3	
Relation of form to function	3	
TOTAL MARKS	9	
FORM/STRUCTURE		
Capture of mood	3	
Articulation of posture and features	3	
Proportion	2	
TOTAL MARKS	8	
CRAFTSMANSHIP		
Skill/competence in handling materials and processes	6	
Finishing/refinement of Articles	2	
TOTAL MARKS	8	
Completion of Articles	2	
TOTAL MARKS	30	

PROJECT 3: GRAPHIC DESIGN

Does the project appear to be genuinely the work of the pupil?

Yes ___ No ___

SKILLS	MAXIMUM SCORE (Marks)	ACTUAL SCORE (Marks)
INTERPRETATION		
subject matter	2	
format (correct dimensions)	2	
Originality	2	
TOTAL MARKS	6	
COMPOSITION		
Layout, Unity, balance, rhythm of motifs/ typefaces	4	
spacing typefaces	2	
TOTAL MARKS	6	
FORM/STRUCTURE		
Definition of form (pictorial typefaces)	2	
Proportion of forms (pictorial/typefaces)	2	
Appropriateness of form/motif of function	3	
TOTAL MARKS	7	

SKILLS	MAXIMUM SCORE (Marks)	ACTUAL SCORE (Marks)
COLOUR		
Harmony/Contrast	2	
Effect of form	2	
TOTAL MARKS	4	
CRAFTSMANSHIP		
Competence in technique	2	
Finish/refinement	2	
Presentation	2	
TOTAL MARKS	6	
COMPLETION	1	
Total Marks	30	
Effort and overall presentation of the finished Artwork	10	

Total marks for Craft Projects out of 50 _____(Marks)

Total Marks for Art Projects out of 100% _____(Marks)

CPE 1991

ART & CRAFT AND MUSIC

Time: 1 hour 30 minutes

READ THESE INSTRUCTIONS CAREFULLY

APPENDIX G

HOW TO USE THE ANSWER SHEET

A COPY OF THE 1991 KCPE ART AND CRAFT EXAMINATION

YOUR INDEX NUMBER

YOUR NAME

NAME OF YOUR SCHOOL

To the Question Booklet

The answer write in a pencil stroke in

- A. Tenor
- B. Soprano
- C. Alto
- D. Bass

The correct answer is C. Alto

On the Answer Sheet

56 (A) (B) (C) (D) 57 (A) (B) (C) (D) 58 (A) (B) (C) (D) 59 (A) (B) (C) (D)

In the set of ellipses numbered 56, the ellipse with H printed in it is shaded.

Dark shading MUST be within the ellipse. Make your shading as DARK as possible.

CPE 1991**ART & CRAFT AND MUSIC**

Time: 1 hour 30 minutes

READ THESE INSTRUCTIONS CAREFULLY

You have been given this question booklet and a separate answer sheet. The question booklet contains 60 questions.

Do any necessary rough work in this booklet.

When you have chosen your answer, mark it on the ANSWER SHEET, not in this question booklet.

HOW TO USE THE ANSWER SHEET

Use only an ordinary pencil.

Make sure that you have written on the answer sheet:

YOUR INDEX NUMBER

YOUR NAME

NAME OF YOUR SCHOOL

By shading the correct numbered ellipses (small oval shapes) mark your full Index Number (i.e. School Code Number and three-figure Candidate's Number) in the grid near the top of the answer sheet.

Do not make any marks outside the ellipses.

Keep the sheet as clean as possible and do not fold it.

For each of the questions 1-60 four answers are given. The answers are lettered A, B, C, D. In each case only ONE of the four answers is correct. Choose the correct answer.

On the answer sheet the correct answer is shown by shading the ellipse in which the letter chosen is written.

Example

In the Question Booklet:

59. The lowest voice in a mixed choir is

- A. Tenor
- B. Soprano
- C. Alto
- D. Bass.

The correct answer is 'D' (Bass)

On the Answer Sheet:

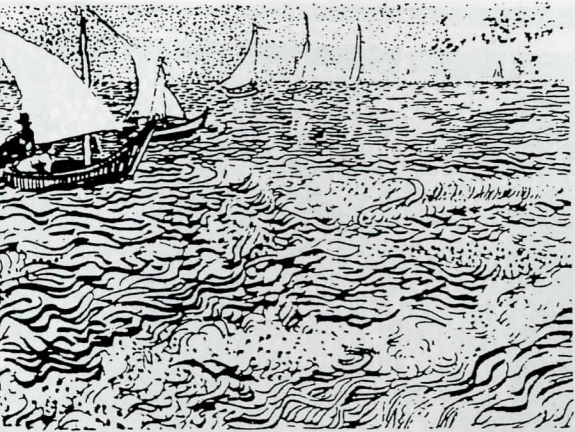
56 (A) (B) (C) (D) 57 (A) (B) (C) (D) 58 (A) (B) (C) (D) 59 (A) (B) (C) (D) 60 (A) (B) (C) (D)

In the set of ellipses numbered 59, the ellipse with D printed in it is shaded.

Your shading **MUST** be within the ellipse. Make your shading as **DARK** as possible.

ART AND CRAFT

The most distinct principle of Art and Design in the composition below is



- A. harmony
- B. rhythm
- C. balance
- D. dominance.

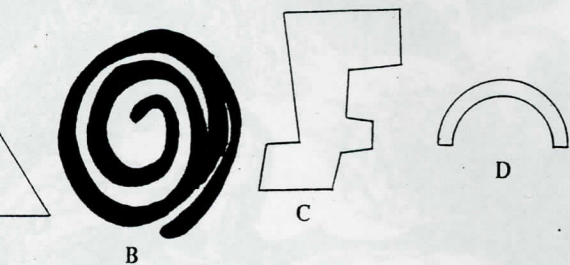
Which one of the following pairs of colours can be classified as complementary colours?

- A. Red and Green.
- B. Yellow and Orange.
- C. Blue and Purple.
- D. Yellow and Green.

Which one of the techniques listed below can be used for transferring textures directly from one surface to another?

- A. Etching.
- B. Spraying.
- C. Hatching.
- D. Rubbing.

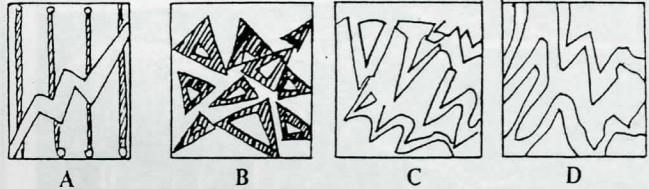
Which one of the following shapes creates the best impression of movement?



5. Which one of the following painting media will take the **longest** time to dry?

- A. Oil paint.
- B. Tempera paint.
- C. Poster paint.
- D. Acrylic paint.

6. In which one of the following illustrations is the principle of dominance most effectively portrayed?



7. The factor that most affects balance when drawing a still-life composition is the

- A. size of paper
- B. number of objects
- C. texture of paper
- D. arrangement of objects.

8. To create an illusion of distance in a landscape painting, the forms in the

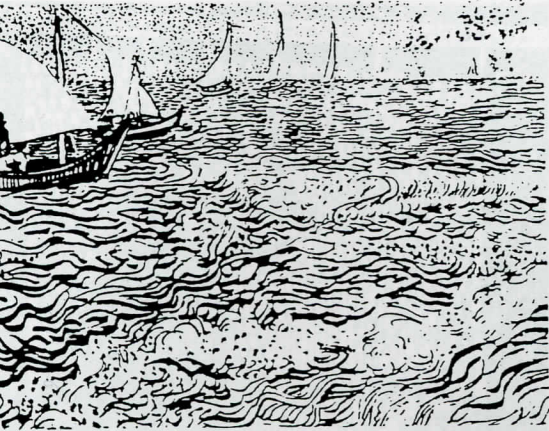
- A. middleground and the background should be of the same brightness
- B. background should be duller than those in the foreground
- C. foreground should be duller than those in the middleground
- D. background should be brighter than those in the foreground.

9. Which one of the following materials can be used to block out unwanted areas on a screen in order to produce the **sharpest** images in screen printing?

- A. Varnish.
- B. Wax.
- C. Cut-out shapes.
- D. Starch paste.

ART AND CRAFT

The **most** distinct principle of Art and Design in the composition below is



- harmony
- rhythm
- balance
- dominance.

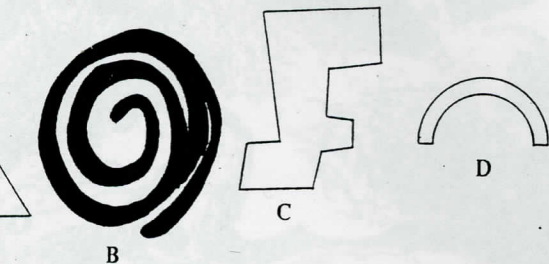
Which one of the following pairs of colours can be classified as complementary colours?

- Red and Green.
- Yellow and Orange.
- Blue and Purple.
- Yellow and Green.

Which one of the techniques listed below can be used for transferring textures directly from one surface to another?

- Etching.
- Spraying.
- Hatching.
- Rubbing.

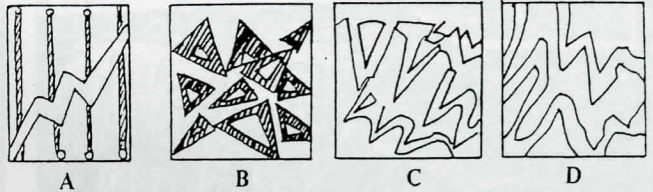
Which one of the following shapes creates the best impression of movement?



5. Which one of the following painting media will take the **longest** time to dry?

- A. Oil paint.
- B. Tempera paint.
- C. Poster paint.
- D. Acrylic paint.

6. In which one of the following illustrations is the principle of dominance most effectively portrayed?



7. The factor that most affects balance when drawing a still-life composition is the

- A. size of paper
- B. number of objects
- C. texture of paper
- D. arrangement of objects.

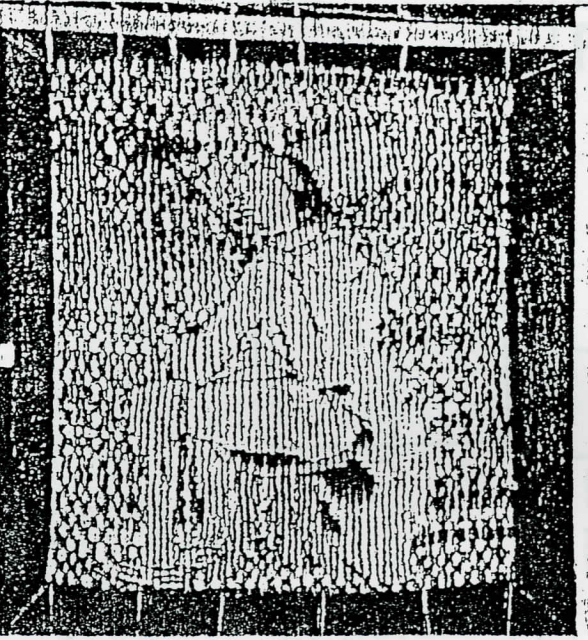
8. To create an illusion of distance in a landscape painting, the forms in the

- A. middleground and the background should be of the same brightness
- B. background should be duller than those in the foreground
- C. foreground should be duller than those in the middleground
- D. background should be brighter than those in the foreground.

9. Which one of the following materials can be used to block out unwanted areas on a screen in order to produce the **sharpest** images in screen printing?

- A. Varnish.
- B. Wax.
- C. Cut-out shapes.
- D. Starch paste.

The wall hanging shown in the photograph below is produced using the technique of



- A. embroidery
- B. tapestry
- C. weaving
- D. macramé.

Which one of the following techniques is least suitable for making baskets for storing maize grain?

- A. Weaving.
- B. Netting.
- C. Twining.
- D. Coiling.

Which one of the following techniques was used to produce the pattern shown below?



- A. Marbling.

13. To make clay beads most durable for ornament making, the beads should be

- A. glazed
- B. painted
- C. varnished
- D. fired.

14. The technique used to produce the sculpture shown in the photograph below is

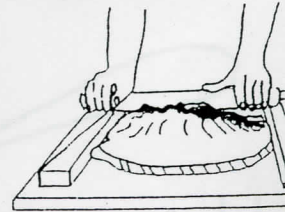


- A. modelling
- B. construction
- C. carving
- D. casting.

15. Stamping in leatherwork is a technique used to

- A. join pieces of leather
- B. create texture on the leather
- C. flatten the surface of leather
- D. scrape the surface of leather.

16. The illustration alongside shows clay being rolled for making a slab. The reason for rolling the clay between two strips of wood is to

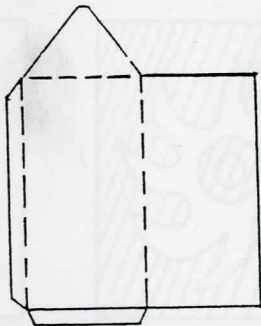
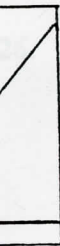


- A. get a slab of even thickness
- B. remove excess moisture
- C. make the clay soft
- D. remove excess clay.

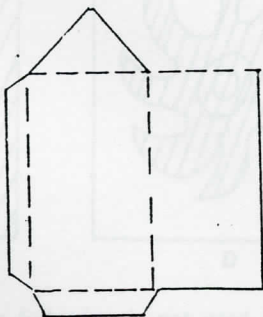
17. The main purpose of wedging and kneading when preparing clay for modelling is to

- A. make clay more elastic
- B. remove impurities
- C. make the clay more porous
- D. remove air bubbles.

Which one of the patterns shown below will produce the envelope illustrated alongside?



B



D

...t of a tree trunk which provides the best
...s the
...k
...wood
...rtwood.

...f the following equipment is used to hold a
...ce when sawing it at an angle of 45°?
...ch hook.
...ooting board.
...ch board.
...tre box.

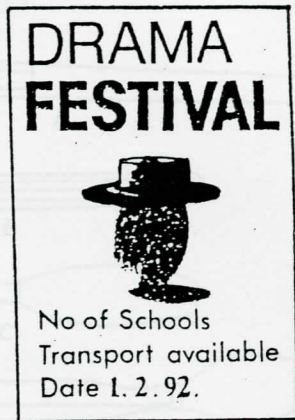
...y used for cutting curves on wood is called a
...saw
...sscut saw
...w saw
...on saw.

...n of a ballpein hammer is used for

23. Which one of the following poster designs is the most effective for announcing a National Drama festival?



A



B

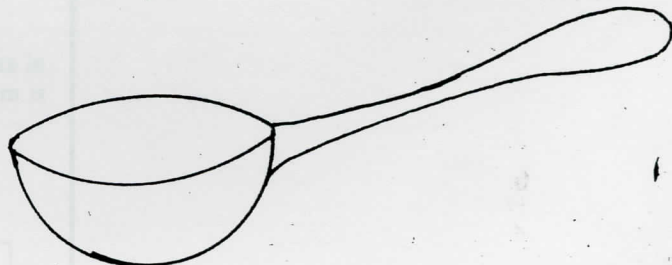


C



D

24. The technique used to make the scoop of the sheet-metal spoon shown below is

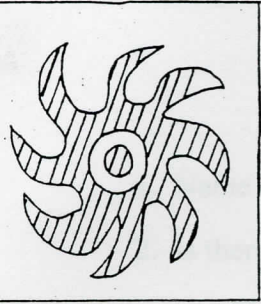


- A. raising
- B. sinking
- C. bending
- D. hollowing.

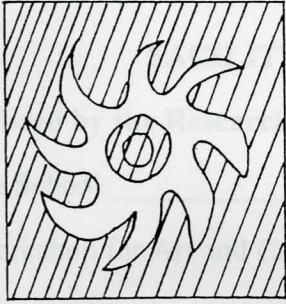
25. Which one of the following fasteners should be used to join two plates of a metal permanently together?



6. The shaded areas in the illustrations below represent negative areas on four different linoblocks. Which one of the areas when cut will print the motif shown alongside?



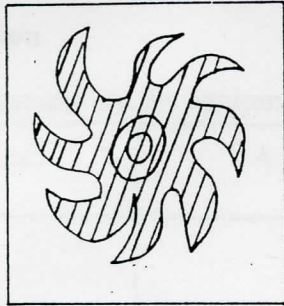
A



B



C

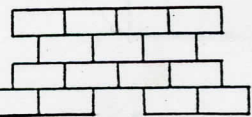


D

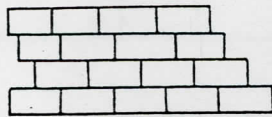
27. Which one of the following is **not** used in making mortar?

- A. Cement.
- B. Sand.
- C. Ballast.
- D. Water.

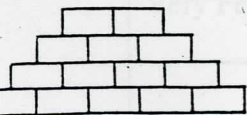
28. Kita constructed a section of a wall using bricks in several ways as shown below. Which one of them is the **weakest**?



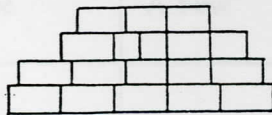
A



B

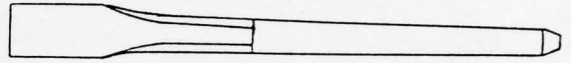


C

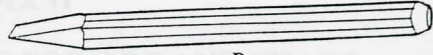


D

29. Which one of the following chisels is used for chipping a stone block?



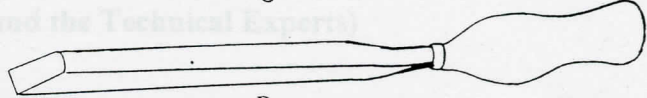
A



B

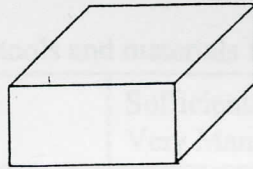


C

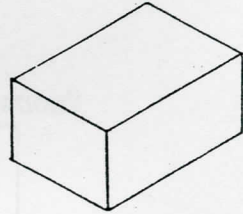


D

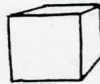
30. Which one of the figures below represents an isometric drawing?



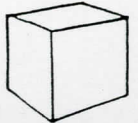
A



B



C



D

APPENDIX H

OBSERVATION SCHEDULE FOR ART AND CRAFT

FACILITIES IN SCHOOLS

(Used by the Researcher and the Technical Experts)

1. Name of the School _____

2. Is there a workshop for Art and Craft in the school?

Yes ___

No ___

3. Art Education

How adequate are the equipment, tools and materials for Art education?

Very Few/ None	A Few	Sufficient/ Very Many

4. Craft Education

How adequate are the equipment, tools and materials for teaching craft education?

Very Few/ None	A Few	Sufficient/ Very Many

5. Overall status of facilities for teaching Art and Craft

Very Few/ None	A Few	Sufficient/ Many

APPENDIX I

CATEGORIZATION OF SAMPLE SCHOOLS WITH RESPECT
TO ADEQUACY OF EQUIPMENT & TOOLS FOR ART AND
CRAFT

School Code	Name of School	V. Many/ Sufficient	A Few	V. Few/ None
01	St. Johns Gaikama			X
02	St. Philips		X	
03	Siakago			X
04	Kamurugu			X
05	Mayori			X
06	Muraru			X
07	Gikuyari			X
08	Kiritiri			X
09	Kubukubu		X	
10	Sacred H. Kyeni	X		
11	Embu Urban		X	
12	Embu County		X	
13	Macanga			X
14	Muchonoke			X
15	A.C. Kigari		X	
16	St. Ursula		X	
17	St. Francis			X
18	Kibugu		X	
19	Kangaru	X		
20	St. Michael	X		

APPENDIX J

**CATEGORIZATION OF SAMPLE SCHOOLS WITH RESPECT
TO DAY vs BOARDING AND RURAL vs URBAN SCHOOL SETTINGS**

School Code	School Name	Day	Boarding	Rural	Urban
01	St. Johns Gaikama		x	x	
02	St. Philips		x	x	
03	Siakago	X		x	
04	Kamurugu	X		x	
05	Mayori	X		x	
06	Muraru	X		x	
07	Gikuyari	X		x	
08	Kiritiri	X		x	
09	Kubukubu	X	x	x	
10	Sacred H. Kyeni		x	x	
11	Embu Urban	X			x
12	Embu County	X			x
13	Macanga	X			
14	Muchonoke	X		x	
15	A.C. Kigari	X		x	
16	St. Ursula		x	x	
17	St. Francis	X		x	
18	Kibugu	X		x	
19	Kangaru	X		x	
20	St. Michael	X			x
		X			x
	Total	15	5	16	4

APPENDIX J

**CATEGORIZATION OF SAMPLE SCHOOLS WITH RESPECT
TO DAY vs BOARDING AND RURAL vs URBAN SCHOOL SETTINGS**

School Code	School Name	Day	Boarding	Rural	Urban
01	St. Johns Gaikama		x	x	
02	St. Philips		x	x	
03	Siakago	X		x	
04	Kamurugu	X		x	
05	Mayori	X		x	
06	Muraru	X		x	
07	Gikuyari	X		x	
08	Kiritiri	X		x	
09	Kubukubu	X	x	x	
10	Sacred H. Kyeni		x	x	
11	Embu Urban	X			x
12	Embu County	X			x
13	Macanga	X			
14	Muchonoke	X		x	
15	A.C. Kigari	X		x	
16	St. Ursula		x	x	
17	St. Francis	X		x	
18	Kibugu	X		x	
19	Kangaru	X		x	
20	St. Michael	X			x
		X			x
	Total	15	5	16	4

APPENDIX K

LIST OF THE REQUIRED ART AND CRAFT EQUIPMENT, TOOLS AND MATERIALS IN SCHOOLS: MINIMUM REQUIREMENT FOR A CLASS OF 40 PUPILS

<u>Item description</u>	<u>Required Quantity per Class</u>
<u>ART</u>	
1. Brush, Painting Round No. 4	8
2. Brush, Painting Round No. 6	8
3. Brush, Painting Round No. 8	8
4. Brush, Painting Round No. 10	8
5. Brush, Bristle, Round No. 6	8
6. Brush, Bristle, Round No. 8	8
7. Books, Work Newsprint 27cm x 19cm x 24 pages	8
8. Books, Newsprint 57cm x 89cm x 24 pages	8
9. Crayon, Wax, Assorted colours	8
10. Crayon, Pencil, Full size (Assorted colours) set of 12	8
11. Ink, Indian Black 28gm.	8
12. Mibs, Lettering, assorted sizes	8
13. Paint, Powder, Red, 500gm.	8
14. Paint, Powder, Yellow, 500gm.	8

15. Paint, Powder, Black, 500gm.	8
16. Paint, Powder, Green, 500gm.	8
17. Paint, Powder, Orange, 500gm.	8
18. Paint, Powder, Blue, 500gm.	8
19. Paint, Powder, White, 500gm.	8
20. Paint, Pallets 6 depressions	8
21. Paper, Sugar Black 55cm X 64cm	8
22. Paper, Drawing (Cartridge) 26cm X 19cm	8
23. Paper, Drawing (Cartridge) 76cm X 6cm	8
24. Paste, Cold Water 500gm.	8
25. Scissors, Pair, Round End 10 cm.	8
26. Knives, Cutting	8
27. Set Square 60/30 (300mm X 175mm) Plastic	8
28. Set Square 45° Plastic	8
29. T-Square - Large Plastic	8
30. Dylon Dyes (cold water) Red	8
31. Dylon Dyes (cold water) Yellow	8
32. Dylon Dyes (cold water) Blue	8
33. Carving Tool Kit (set of six)	8
34. Inks, Printing, Fabric (75 mg) Red	8
35. Inks, Printing, Fabric (75 mg) Blue	8
36. Inks, Printing, Fabric (75 mg) Yellow	8

13. Hammer Claw Carpenter 300gm 8

14. Hammer Claw Carpenter 300gm 8

LEATHER WORK

1. Punch, Six way	8
2. Punch, Single hole	8
3. Press study tool	8
4. Needle Thonging	8
5. Needle Sewing	8
5. Knife (Shoemakers)	8

WOOD WORK

1. Workshop Bench	2
2. Vices (2 per bench)	4
3. Saw Rip Hand 600mm	8
2. Saw hand Cross Cut 600mm	8
3. Saw Bow	8
4. Saw Tenon	8
5. Saw Hole	8
6. Brace Carpenters Ratchet 750mm	8
7. Auger Bit (Set) 6mm, 9mm, 12mm, 25mm.	8
8. Plane Jack No. 5	8
9. Plane Smoothing No. 4	8
10. Square Try Carpenters 150mm	8
11. Chisels Firmer 6mm, 12mm, 18mm, and 25mm.	8
12. Chisels Mortise 6mm, 12mm, 18mm, 25mm.	8
13. Hammer Claw Carpenters 340gms	8
14. Hammer Claw Carpenters 500gms	8

15. Oil Can	8
16. Oil Stone Combination 250	8
17. Rule Folding 1 metre	8
18. Spoke Shave Flat	8
19. Spoke Shave Curved	8
20. Mallet Wooden	8
21. Bevel Square	8
22. Gauge Mortise	8
23. Screw Driver 150mm	8
24. Screw Driver 300mm	8
25. Nail Punches (set)	8
26. Clamp 'G' 150	8
27. Clamp Slash	8
28. Clamp Slash 1m	8
29. Saw Set	8
30. Counter Sink Bit	8
31. Drill Hand	8
32. Twist Drill Set 1,5mm - 12mm	8
33. Pincers Carpenters	8
34. Mitre Box	8
35. File Wood Rasp	8

METAL WORK

1. Pliers Combination	8
2. Hack Saw 250mm	8

3. Hacksaw Blade 18 TP 1	8
4. Hacksaw blade 24 TP 1	8
5. Calipers Odd Leg 150mm	8
6. Hammer Ball Pein 300gms	8
7. Hammer Ball Pein 500gms	8
8. Hammer Straight Pein 340gms	8
9. Soldering From Manual/Electric	8
10. Anvil Steel 50kg	8
11. Vice Engineers 100mm	8
12. Tinsnips Straight Edge	8
13. Chisel Cold 150mm	8
14. File, Flat Second Cut 250mm	8
15. File, Flat Smooth 250mm	8
16. File half Round Smooth 200mm	8
17. File Half Round Bastard 250mm	8
18. File Round 200mm	8
19. Steel Rule 300mm	8
20. Scriber	8

BUILDING CONSTRUCTION

1. Square, Steel Carpenters Roofing 450mm X 300mm	8
2. Tape Measure 2m	8
3. Tape Measure 30m	8
4. Block Moulds Steel/Wooden	8

5. Brick moulds Steel/Wooden	8
6. Shovels (Spades)	8
7. Pangas (Straight Edge)	8
8. Jembes	8
9. Spirit Level 300mm	8
10. Plumb Bob	8
11. Steel Bar. 25mm dia. X 2m	8
12. Trowel (pointed) 140mm	8
13. Trowel (pointed) 160mm	8
14. Float Corner Inside	8
15. Float Corner Outside	8
16. Boards Straight Edge 75mm X 25mm X 180cm	8
17. Pointers Pine Type	8
18. Chisel Masonry	8
19. Hammer Masonry	8
20. Building Lines Voll	8

Source: Ministry of Education, Inspectorate Section.

APPENDIX L**SUMMARY OF TOPICS IN THE ART AND CRAFT SYLLABUS****STANDARD ONE:**

Picture Making: Drawing, Painting, Collage and Mosaic

Pattern Making

Print Making: Block printing

Paper Craft: Folding, cutting and construction

Sculpture: Modelling

Weaving: Free weaving, Paper weaving, and Rectangular card loom with holes

Puppetry: Finger and rod puppets

Ornaments

STANDARD TWO:

Picture making: Drawing, Painting, and Mosaic and collage

Pattern Making

Print Making: Block printing

Paper Craft: Paper weaving

Sculpture: Modelling

Weaving: Rectangular card loom with serated edges

Puppetry: Hand puppets

STANDARD THREE:

Picture Making: Drawing, Painting, Mosaic and collage

Pattern Making

Print Making: Block printing, Stencil printing

Paper Craft: Paper patterns and pictures

Sculpture: Modelling

Puppetry: Stick/rod puppets

Ornaments

STANDARD FOUR:

Picture Making: Drawing, Painting, Montage and Etching

Pattern Making

Print Making: Blot, Mono and string printing

Paper Craft: Paper motifs and three dimensional forms

Sculpture: Modelling

Pottery/Ceramics: Pinch and coil methods

Weaving: Frame loom

Puppetry: Marionettes

Ornaments

Graphic Design: Cards

Woodwork: Safety precautions, wood and woodwork tools, Chopping, chipping and shaping

STANDARD FIVE:

Picture Making: Drawing, Painting, Mosaic and collage

Pattern Making

Print Making: Stencil printing

Sculpture: Modelling

Pottery/Ceramics: Clay, Slab method, Open firing

Basketry: Plaiting technique

Weaving: Looms of different shapes

Puppetry: Glove puppets

Ornaments: Making ornaments from sheet metal and wires

Decoration Forms

Fabric Decoration: Tie and dye

Graphic Design: Lettering, Book cover design, single section book

Woodwork: Safety precautions, wood/timber and Tools

Metalwork: Metals, Freehand sketching, Safety precautions, Metalwork tools, Project work

STANDARD SIX:

Picture Making: Drawing, Painting

Pattern Making: Different types of repeat patterns, Marbling

Print Making: Block printing

Mounting and Framing

Sculpture: Carving

Pottery/Ceramics: Ball method, Closed firing

Basketry: Coiling technique

Puppetry: Marionettes, Puppet theatres

Decoration Forms

Fabric Decoration: Block printing

Graphic Design: Envelopes, Folders, Wall hanging

Woodwork: Safety precautions, Wood/timber, Woodwork tools and devices,
Cross-halving, Mitre and dowell joints

Metalwork: Metals, Operations, Lap joints and soldering

Basic Building Construction: Types of Houses, Traditional Houses

STANDARD SEVEN:

Picture Making: Drawing, Painting

Print Making: Screen printing

Sculpture: Carving

Basketry: Twining

Weaving: Loom weaving

Fabric Decoration: Batik making

Graphic Design: Identification Symbols

Woodwork: Safety precautions, Manufactured boards and wood/timber adhesives,
Marking Tools and finishes, Single dove-tail joint

Metalwork: Forms of metals, Soldering, seaming and wired edge treatment

Basic Building Construction: Modern house, Blocks

STANDARD EIGHT:

Picture Making: Drawing, Painting

Print Making: Block printing

Sculpture: Construction, Modelling

Fabric Decorations: Combination of techniques

Graphic Design: Lettering

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Graphic Design: Envelopes, Folders, Wall hanging

Woodwork: Safety precautions, Wood/timber, Woodwork tools and devices,
Cross-halving, Mitre and dowell joints

Metalwork: Metals, Operations, Lap joints and soldering

Basic Building Construction: Types of Houses, Traditional Houses

STANDARD SEVEN:

Picture Making: Drawing, Painting

Print Making: Screen printing

Sculpture: Carving

Basketry: Twining

Weaving: Loom weaving

Fabric Decoration: Batik making

Graphic Design: Identification Symbols

Woodwork: Safety precautions, Manufactured boards and wood/timber adhesives,
Marking Tools and finishes, Single dove-tail joint

Metalwork: Forms of metals, Soldering, seaming and wired edge treatment

Basic Building Construction: Modern house, Blocks

STANDARD EIGHT:

Picture Making: Drawing, Painting

Print Making: Block printing

Sculpture: Construction, Modelling

Fabric Decorations: Combination of techniques

Graphic Design: Lettering

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Woodwork: Safety precautions, Drawing, Designing factors, Mortise and tenon joints

Metalwork: Alloys, Filing, sawing, drilling and riveting

Basic Building Construction: Wall laying

*Source: Republic of Kenya. (1992). Primary Education Syllabus, Vol. 1.
Nairobi: Kenya Literature Bureau.*