THE UNIVERSITY OF HULL

An Empirical Study of Saudi Secondary School Students' Achievement Motivation, Attitude toward Subjects, Perception of Classroom Environment and Teaching Aids, in Relationships to Academic Achievement in Three School Subjects

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By

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Abstract

Background

Low levels of Academic Achievement among secondary school students, especially in Islamic Religious Science, Arabic Language and English Language, have become a matter of concern to Saudi society in recent years. Educationalists have, based largely on hearsay or theoretical assumptions, blamed students' low Achievement Motivation and poor Attitudes, and rigid teaching methods.

Aims

This study investigates the affective responses of Saudi secondary students towards Islamic Religious Science, Arabic Language and English Language; relationships between Academic Achievement and affective variables; and teachers' perceptions of students' Academic Achievement and affective responses, and of their own Teaching Methods and use of Teaching Aids.

Samples

The samples were students (n = 1,224) of all third year classes in eight secondary schools in Taif, Saudi Arabia; and their teachers of Islamic Religious Science, Arabic Language and English Language (n = 49, 49 and 39 respectively).

Methods

Students' Achievement Motivation, Attitude toward Subject, and perceptions of the Classroom Environment and of Teaching Aids, were measured using a questionnaire designed by the researcher. Data on their Academic Achievement in Islamic Religious Science, Arabic Language and English Language were obtained from the Ministry of Education. Interviews were conducted with eight teachers of each subject and, based on

content analysis of their responses, a multiple-choice questionnaire devised for administration to a further 113 teachers.

Results

Students' scores on affective variables were low to moderate. Teaching Aids were perceived as little used, and little variety in Teaching Methods was reported. Academic Achievement was not correlated with any other variable. Further investigation suggested that teachers' assessments of student Academic Achievement are unreliable.

Conclusion

The findings of the study have implications for teacher training, objective-setting, curriculum design and student assessment. There is a need for revision of the national curriculum and assessment system, in which the U.K.'s TGAT model may be a useful guide.

CONTENTS

Acknowledgements i
Abstract ..... ii-iii
Table of Contents ..... iv-x
List of Tables ..... xi-xiv
List of Figures xv
List of Abbreviation xvi

CHAPTER ONE

1.1 Introduction 1
1.2 The Problem 2
1.3 Purpose of the Study 6
1.4 Significance of the Study 6

CHAPTER TWO

THE EDUCATION SYSTEM IN THE KINGDOM OF SAUDI ARABIA

2.1 Introduction 8
2.2 Basis of Education in Saudi Arabia 9
2.3 Educational Organisation in KSA 10
2.4 Ministry of Education 11
2.5 Objectives of General Education 16
2.6 The Curriculum in KSA 18
2.7 The Examination System in KSA 20
2.8 Teacher Training in KSA 22
2.9 Secondary Education 29
2.9.1 The Development of General Secondary Education 30
2.10 Islamic Religious Science 34
2.10.1 The objectives of teaching Islamic Religious Science 34
2.10.2 The Islamic Religious Science Curriculum 35
2.11 Arabic Language 39
2.11.1 The objectives of teaching Arabic Language 39
2.11.2 The Arabic Language Curriculum 41

2.12 English Language **43**

2.12.1 The objectives of teaching English Language 43

2.12.2 The English Language Curriculum 45

2.13 Summary **48**

CHAPTER THREE

LITERATURE REVIEW

3.1 Introduction **50**

Part One : Definitions, Origins and Explanations

3.2 Achievement Motivation **52**

3.2.1 The Concept of Achievement Motivation 42

3.2.2 The Development of Achievement Motivation in Individuals 55

3.3 Concept of Attitude **60**

3.4 Classroom Environment **65**

3.4.1 Concept of Classroom Environment 65

3.4.2 Teaching Methods 67

3.4.3 Teaching Aids 74

3.5 Summary **79**

Part Two : Empirical Studies of the Variables

3.6 Studies of Achievement Motivation **80**

3.61 Achievement Motivation and Personal and Environmental Variables 80

3.62 Achievement Motivation and Attitude 83

3.63 Achievement Motivation and Classroom Environment 86

3.64 Achievement Motivation and Achievement 89

3.7 Studies of Attitude **95**

3.7.1 Attitude and Classroom Environment 95

3.7.2 Attitude and Achievement 99

3.8 Studies of Classroom Environment **104**

3.8.1 Approaches to Studying Classroom Environment 104

3.8.2 Classroom Environment and Achievement 107

3.9 Summary of Part Two **111**

3.9 CONCLUSION **115**

CHAPTER FOUR

RESEARCH DESIGN AND PILOT STUDY

4.1 Introduction **119**

Part One - Design of the Study

4.2 Aims of the Study **120**

4.3 Design of the Study **121**

4.4 The Student Questionnaire **123**

4.4.1 Reasons for Use of Self-report Questionnaire 123
4.4.2 Construction of the Questionnaire 125
4.4.3 Achievement Motivation Scale 127
4.4.4 Attitude Scale 128
4.4.5 Classroom Environment Scale 129
4.4.6 Teaching Methods Scale 130
4.4.7 Teaching Aids "Scale" 131

4.5 Validity of Questionnaire **132**

4.5.1 Achievement Motivation and Attitude 135
4.5.2 Classroom Environment 135
4.5.3 Teaching Methods 136
4.5.4 Teaching Aids 136
4.5.5 The AMACT Questionnaire as a Whole 136

4.6 Academic Achievement **137**

4.7 Teachers' Interview Schedule **138**

4.7.1 Reasons for Use of Interview 138
4.7.2 Construction of Interview Schedule 141

4. 8 Translation of the Instruments into Arabic **144**

Part Two - The Pilot Study

4.9 The Aims of the Pilot Study **146**

4.10 The Pilot Study Sample **148**

4.11 Piloting the Student Questionnaire 149
4.11.1 Data Collection Procedure 149
4.11.2 Reliability 150
4.11.2.1 Reliability of Achievement Motivation Scale 152
4.11.2.2 Reliability of Attitude Scale 153
4.11.2.3 Reliability of Classroom Environment Scale 154
4.11.2.4 Reliability of Teaching Methods Scale 156
4.11.3 Analysis of Teaching Aids Scale 157
4.12 Piloting of Teacher Interview Schedule 159
4.12.1 Pilot Interview Procedure 159
4.12.2 Reliability of the Interviews 159
4.13 Construction of Teachers' Questionnaire 161
4.13.1 Content Analysis of Pilot Interviews 161
4.14 Summary 165

CHAPTER FIVE

DATA COLLECTION IN THE MAIN STUDY

5.1 Introduction 167
5.2 Research Questions 167
5.3 Data Analysis Techniques 168
5.4 The Target Population 169
5.5 Sample Selection 169
5.5.1 The Student Sample 170
5.5.2 The Teachers' Interview Sample 173
5.5.3 The Teachers' Questionnaire Sample 174
5.6 Methodology 174
5.6.1 Administration of Students' Questionnaire 175
5.6.2 Conduct of Interviews 175
5.6.3 Administration of Teachers' Questionnaire 176
5.6.4 Obtaining Students' Academic Achievement Data 177
5.7 Data Preparation 177

5.8 Reliability of the Instruments as used with the Main Sample 177

5.8.1 Reliability of Achievement Motivation Scale 178

5.8.2 Reliability of Attitude Scale 179

5.8.3 Reliability of Classroom Environment Scale 180

5.8.4 Reliability of the Academic Achievement Tests 181

5.9 Content Analysis of the Academic Achievement Tests 181

5.10 Summary 189

CHAPTER SIX

RESULTS OF THE STUDY

6.1 Introduction 191

Part One : Students' Responses

6.2 Descriptive Analysis 192

6.2.1 Students' Academic Achievement 193

6.2.2 Students' Achievement Motivation 194

6.2.3 Students' Attitude toward the Subject 195

6.2.4 Classroom Environment 196

6.2.5 The Use of Teaching Aids 198

6.3 Differences between Responses in the Three Subjects 202

6.3.1 Differences between responses in the three subjects in Academic Achievement 203

6.3.2 Differences between responses in the three subjects in Achievement Motivation 203

6.3.3 Differences between responses in the three subjects in Attitude toward the Subject 204

6.3.4 Differences between responses in the three subjects in Classroom Environment 205

6.3.5 Differences between responses in the three subjects in Teaching Aids 207

6.3.6 Summary of Results 209

A report in Okaz Daily Newspaper (1993) commented on problems of curriculum overload and the prevalence of traditional teaching methods. For each subject, there is a prescribed textbook, and the teacher must cover a specified number of units or chapters each term, irrespective of the ability of students. The quantity of material to be covered was said to be unrealistic in relation to the time available. It is perhaps for this reason, it was suggested, that teaching relies mainly on the lecture method.

Massialas & Jarrar (1983) pointed out that whereas in many countries, it is usual for teachers to develop their own materials to compensate for any shortcoming in the available textbooks, or to tailor materials more exactly to the needs of their pupils, this is not the case in Arab schools. This is because of the rigidity of the official curriculum and the perceived sanctions associated with its violation, which discourage the development of teacher-made materials and use of local resources. Furthermore, the development of materials does not form part of teacher training. So teachers tend to view such activity as beyond their capability and responsibility. Saudi Arabia is no exception in this respect. A process of curriculum reform is underway in KSA as Al-Ajroush (1980) pointed out, but it does not cover all subjects. For example, the Islamic Religious Science and Arabic language curricula have both remained unchanged for over 20 years. Al-Shaffi (1993) stated that in the contrast to the rest of the educational curriculum including English language, mathematics, natural and social sciences and arts, which have kept pace with modern times, there has been no change in the curriculum, nor, he claims, has there been any change in teaching methods in Islamic Religious Science or Arabic language. The curricula of Islamic Religious Science and Arabic will be discussed in more detail in later sections.

CHAPTER SEVEN

DISCUSSION OF FINDINGS

7.1 Introduction **256**
7.2 Scores on the Study Variables **257**
7.2.1 Academic Achievement 257
7.2.2 Achievement Motivation and Attitude toward the Subjects 259
7.2.3 Classroom Environment 261
7.2.4 Teaching Aids 262
7.3 Differences in Students' Responses between the Three Subjects **264**
7.4 Correlations between the Study Variables **267**
7.4.1 Relationships between Achievement Motivation, Attitude toward Subject, Classroom Environment and Teaching Aids 267
7.4.2 Relationships between Academic Achievement and other variables 269
7.5 Teacher Perceptions on Academic Achievement and other Variables **282**
7.5.1 Academic Achievement and Achievement Motivation 282
7.5.2 Academic Achievement and Attitude toward the Subjects 283
7.5.3 Academic Achievement and the Quality of Teacher 284
7.5.4 Academic Achievement and Quality of Content of Book 286
7.5.5 Academic Achievement and Teaching Aids 287
7.5.6 Teaching Methods 288
7.5.7 Students' Participation 289
7.6 Comparison of Teachers' and Students' Perceptions **293**
7.7 Summary **296**

CHAPTER EIGHT

SUMMARY, CONCLUSION AND RECOMMENDATIONS

8.1 Summary **298**
8.2 Conclusion **307**
8.3 Limitations of the Study **310**
8.4 Recommendations **312**
8.5 Suggestions for Further Research **319**
Bibliography **322-336**
Appendices

LIST OF TABLES

Table 2.1 The Quantitative Development in the main elements of the educational process in the secondary stage (1960 - 1997) 11

Table 2.2 Plan of Study in the Secondary School (TMSS), in the KSA (1996) 32

Table 3.1 Summary of instruments used to measure Achievement Motivation, Attitude toward Subject and Classroom Environment 114

Table 3.2 Summary of studies of Achievement Motivation, Attitude and Classroom Environment 118

Table 4.1 Statements of Achievement Motivation scale 128

Table 4.2 Statements of Attitude scale 129

Table 4.3 Statements of Classroom Environment scale 130

Table 4.4 Statements of Teaching Methods part of the AMACT questionnaire; items constructed by the researcher. 131

Table 4.5 Shows a list of 15 teaching aids for respondents to tick the ones which they had seen used in the teaching of IRS, AL and EL 131

Table 4.6 Number of items removed and number of items retained, by scale and academic subject. 135

Table 4.7 Alpha if item deleted for achievement motivation scale for the three teaching subjects. 152

Table 4.8 Alpha if item deleted for the attitude scale in three teaching subjects. ... 153

Table 4.9 Alpha if item deleted for the classroom environment scale in three teaching subjects. 155

Table 4.10 Frequencies and percentages of responses regarding teaching methods in three teaching subjects 156

Table 4.11 Descriptive statistics of frequency (F) and percentage (%) for the items of teaching aids scale in the three subjects 157

Table 4.12 Responses obtained in pilot interviews 162

Table 5.1 Number and distribution of classes by school, section (Science or IRS and AL) and academic subject 172

Table 5.2. Number and distribution of student sample by school, section (Science or IRS and AL) and subject 172

Table 5.3 Number and distribution of complete responses to students' questionnaire by school, section (Science or IRS and AL) and subject.. 173

Table 5.4 Number and distribution of teachers' interview sample by school and subject 173

Table 5.5. Number and distribution of teachers' questionnaire, by school and subject 174

Table 5.6 Number and distribution of teachers' questionnaire responses, by school and subject 177

Table 5.7 Correlation and alpha if item deleted for Achievement Motivation scale for the three academic subjects 178

Table 5.8 Correlation and alpha if item deleted for Attitude scale in the three academic subjects 179

Table 5.9 Correlation and alpha if item deleted for Classroom Environment scale in the three academic subjects 180

Table 5.10 Correlation and alpha if item deleted for Academic Achievement test 181

Table 5.11 Content Analysis of Academic Achievement Test for Islamic Religious Science 183

Table 5.12 Content Analysis of Academic Achievement Test for Arabic Language 185

Table 5.13 Content Analysis of Academic Achievement Test for English Language 187

Table 6.1 Students' Academic Achievement in the three subjects, IRS, AL and EL 193

Table 6.2 Students' Achievement Motivation in the three subjects, IRS, AL and EL 194

Table 6.3 Students' Attitude towards the three subjects, IRS, AL and EL 195

Table 6.4 Students perceptions of Classroom Environment in the three subjects, IRS, AL, and EL 197

Table 6.5 Students' responses on use of TA in the three subjects, IRS, AL and EL 198

Table 6.6 Students' responses relating to the use of teaching aids in the three subjects, IRS, AL and EL 200

Table 6.7 Results of t-test for differences in Academic Achievement in the three subjects, IRS, AL and EL 203

Table 6.8 Results of t-test for Achievement Motivation in the three subjects, IRS, AL and EL 204

Table 6.9 Results of t-test for Attitude toward the three subjects, IRS, AL and EL 204

Table 6.10 Results of t-test for Classroom Environment in the three subjects, IRS, AL and EL 205

Table 6.11 Students' perceptions of the use of individual Teaching Aids in the three subjects, IRS, AL and EL 207

Table 6.12 Perception of use of Teaching Aids as a composite variable in the three subjects, IRS, AL and EL 208

Table 6.13 Students' perceptions of the use of the variables in the three subjects, IRS, AL and EL 209

Table 6.14 Correlations between students' Academic Achievement and the other variables (AM, AT, CE, TA) in the three academic subjects, IRS, AL and EL 213

Table 6.15 Correlation between students' AM and (AT, TA and CE) in the three academic subjects, IRS, AL and EL 215

Table 6.16 Correlation between students' AT (CE and TA) in the three academic subjects, IRS, AL and EL 216

Table 6.17 Correlation between students' CE and TA in the three academic subjects, IRS, AL and EL 217

Table 6.18 Summary of the correlations of the research variables (AC, AM, AT, CE and TA) in the three academic subjects, IRS, AL and EL 218

Table 6.19 Students' additional comments and suggestions 223

Table 6.20 Responses obtained in the interview 225

Table 6.21 Main aspects of teacher interview responses and items relevant to each of them 226

Table 6.22 Teachers' perspective of AC in the three academic subjects, IRS, AL and EL 226

Table 6.23 Teachers' perspective of use of TA in the three academic subjects, IRS, AL and EL 228

Table 6.24 Teachers' perspective of TM in three academic subjects, IRS, AL and EL 229

Table 6.25 Teachers' perspective of SP in three academic subjects, IRS, AL and EL 230

Table 6.26 Teachers' belief that students' AC is or is not related to their AM, for the three academic subjects, IRS, AL and EL 233

Table 6.27 F ratio for teacher perception of Achievement Motivation by three subjects, IRS, AL and EL 234

Table 6.28 Relationship between teachers' perceptions of students' AC and perceptions that AC is affected by AM, for the three academic subjects, IRS, AL and EL 234

Table 6.29 Teachers' belief that students' AC is or is not related to their Attitude toward the Subject, for the three academic subjects, IRS, AL and EL ... 236

Table 6.30 The relationship between students' AC and AT in view of their teachers in the three academic subjects, IRS, AL and EL 237

Table 6.31 Teachers' belief that students' AC is or is not related to the Quality of Teacher, for the three academic subjects, IRS, AL and EL ... 238

Table 6.32 The relationship between students' AC and QT in view of the teachers in three academic subjects, IRS, AL and EL 239

Table 6.33 Teachers' belief that students' AC is or is not related to the Quality of Book, for the three academic subjects, IRS, AL and EL 240

Table 6.34 The relationship between students' AC and QB in view of the teachers, in three academic subjects, IRS, AL and EL 241

Table 6.35 Teachers' belief that they do or do not use Teaching Aids, for the three academic subjects, IRS, AL and EL 242

Table 6.36 The relationship between students' AC and teachers' use of TA in view of the teachers in three academic subjects, IRS, AL and EL 243

Table 6.37 Teachers' belief that they used varied Teaching Methods, for the three academic subjects, IRS, AL and EL 244

Table 6.38 Relationship between students' AC and TM in view of the teachers in three academic subjects, IRS, AL and EL 245

Table 6.39 Teachers' belief in the existence of student participation, for the three academic subjects, IRS, AL and EL 246

Table 6.40 The relationship between students' AC and SP in view of the teachers in three academic subjects, IRS, AL and EL 247

Table 6.41 Summary of teachers' responses regarding possible relationships between student Academic Achievement and other variables 248

Table 6.42 Summary of teachers' responses regarding their perceptions of aspects of the Classroom Environment 249

Table 6.43 Frequency data summarised from Tables 6.28, 6.30, 6.32, 6.34, 6.36, 6.38 and 6.40, showing similar values in corresponding cells 250

Table 6.44 Teachers' responses to the open question 251

Table 7.1 Achievement tests used and main findings for previous studies 273

LIST OF FIGURES

LIST OF FIGURES

Fig. 2.1 The Main Authorities Responsible for Education Policy 10

Fig. 2.2 Organisation Plan of the Ministry of Education, 1994 12

Fig. 2.3 Flow Chart of Education in the Kingdom of Saudi Arabia, 1994 14

Fig. 2.4 Distribution of the weekly classes in the new secondary school education system 33

Fig 4.1 Design of Teacher Questionnaire 163

Fig 6.1 Distribution of Academic Achievement scores in three subjects, IRS, AL and EL 194

Fig. 6.2 Distribution of Achievement Motivation score in three subjects, IRS, AL and EL 195

Fig. 6.3 Distribution of Attitude toward Subject scores in the three subjects, IRS, AL and EL 196

Fig. 6.4 Distribution of Classroom Environment scores in three subjects, IRS, AL and EL 197

Fig. 6.5 Distribution of the use of Teaching Aids in three subjects, IRS, AL and EL 198

LIST OF ABBREVIATIONS

ABEGS	Arabic Bureau for Education in the Gulf States
AC	Academic Achievement
AL	Arabic Language
AM	Achievement Motivation
AMACT	Achievement Motivation, Attitude, Classroom Environment and Teaching Aids
AOES	Arab Organisation for Education and Science
AT	Attitude Toward Subject
ATs	Attainment Targets
CE	Classroom Environment
CES	Classroom Environment Scale
CSS	Comprehensive Secondary School
DSS	Development Secondary School
EFL	English as a Foreign Language
EL	English Language
GCE	General Certificate of Education
GCSE	General Certificate in secondary Education
GPGE	General Presidency of Girls' Education
ICEQ	Individualised Classroom Environment Questionnaire
INSET	In-Service Training
IRS	Islamic Religious Science
KSA	Kingdom of Saudi Arabia
LEA	Local Education Authority

MMI	Multidimensional Motivation Instrument
NCC	National Curriculum Council
PoS	Programmes of Study
QB	Quality of Book
QT	Quality of Teacher
SATs	Standard Attainment Tasks
SEAC	Schools Examinations and Assessment Council
SP	Student Participation
TA	Teaching Aids
TGAT	Task Group on Assessment and Testing
TM	Teaching Methods
TMSS	Traditional Modernised Secondary School
TSS	Traditional Secondary School

CHAPTER ONE

1.1 Introduction

1.2 The Problem

1.3 Purpose of the Study

1.4 Significance of the Study

Chapter One

1.1 Introduction

The Kingdom of Saudi Arabia, with an area of about 2,261,060 sq. km, is located in Southwest Asia. The majority of the population is concentrated in the large cities of Riyadh, Jeddah, Mecca, Taif, Madina, and Jizan. According to the 1992 census, the total population of the Kingdom is 16,929,290 of whom 12,304,825 are Saudi nationals. (See the map of Saudi Arabia, Appendix 1)

The Kingdom of Saudi Arabia has undergone rapid economic development during the last twenty years. This has resulted in significant changes in the web of the social and economic life in the country (Ministry of Information 1996)

Education is one of the most important sectors in the development of any country, and in Saudi Arabia is accorded particular importance as part of the process of Saudisation – the replacement of expatriates in the workforce with suitably qualified indigenous personnel. Therefore, like many other countries, the Kingdom of Saudi Arabia has undertaken extensive efforts to develop education in terms of establishing new institutions and attempting to upgrade the quality of provision. These efforts have included several changes to the system of secondary education over the past decade. Although an extended account of the education system in Saudi Arabia is given in Chapter Two, it is appropriate to give here some very brief information about secondary education in the country to enable the reader to appreciate the purpose and problem of the study.

To enter secondary school in Saudi Arabia, students must have completed Intermediate school and passed the final Intermediate examination, which leads to award of a certificate. The usual age of entry to secondary school is 15 years. All schools are

single-sex. After a preparatory year in which they follow a common curriculum, students will specialise; most schools offer a choice of two Sections - Religious Sciences and Arabic Language, or Natural Sciences - in which students study for two years.

Irrespective of whether they are in the Religious Sciences and Arabic Language section or the Natural Sciences section, certain subjects are compulsory throughout the secondary stage. Chief among these are Islamic Religious Science (IRS), Arabic Language (AL) and English Language (EL). These are core subjects which occupy a large part of the curriculum. At the end of the secondary stage, students take an examination. Those who achieve the prescribed level of attainment are awarded the secondary school certificate, called the GCSE.

1.2 The Problem

In recent years, serious concerns have been expressed by the Saudi Arabian government and educationists about the low level of achievement among secondary school students. Achievement in the GCSE is considerably less than that to which Saudi society aspires. The problem is said to be particularly acute in IRS, AL and EL. An indication of general concern for the problem is that, the alleged weakness of students in IRS performance was discussed at the Conference of Islamic Education (Umm Al-Qura University, 1983).

Parents have lobbied the Ministry of Education to express concern about students' weakness in IRS at all levels from the primary school to the university stage (Ministry of Education, 1986a).

More than one report by school inspectors (Ministry of Education, 1990) has referred to low achievement in IRS, while Al-Najadat (1991) made a similar claim.

In interviews with the researcher, some inspectors of IRS claimed that, although the pass rate in the secondary school IRS examinations is satisfactory, on their school visits they noticed poor student performance in IRS lessons and weakness in applying IRS concepts. Although they lacked empirical data to support their view, the inspectors were inclined to attribute inadequacies in student performance to the weakness of IRS teachers (Taif, Directorate of Education, 1996).

With regard to Arabic Language, concerns about weakness in students' attainment have been expressed repeatedly in the last two decades. Notable critics in recent years have been Elsayed (1985), Azzaizzea (1989), Alkharrat (1995) and Al-Immam University (1995).

Moreover, the current Saudi Minister of Education in his 1996 report, "Our Education to Where?" remarked that according to general exam results and special reports, there is noticeable weakness in the functional performance of school leavers recruited to government sector employment. They lack basic knowledge and skills, especially in the Arabic language (Al-Rasheed, 1996). This claim of inadequate skills among school leavers inevitably raises questions about the teaching and learning of the subject at the secondary level and, possibly, assessment.

In the case of English Language, unsatisfactory achievement has been claimed by the Arab Bureau of Education for the Gulf States (1983), Al-Shabbi (1989) and Arishi (1995).

The secondary school system has been changed several times in recent years, in the attempt to find a balance between the country's socio-economic development needs and the interests and aptitudes of students. Nonetheless, criticisms of low achievement continue to be made.

Educationists have suggested several reasons for this low achievement. Teachers have commonly blamed students' lack of [1]achievement motivation and poor attitudes, while some educationists allege that aspects of the classroom environment, such as unimaginative teaching methods and lack of teaching aids are also contributory factors. For example, Al-Shaffi (1993) suggested in relation to students attending secondary schools in Saudi Arabia, that there is a lack of achievement motivation and poor attitudes among the students, particularly in Islamic Religious Science (IRS). He claims that for this reason, "students in the secondary schools don't pay any attention to IRS" (p.99).

In support of his claim, he alleges that students are frequently absent from IRS lessons and do not participate in classroom activities. Reasons for students' lack of interest in IRS, he suggested, are a shortage of qualified teachers and the non-use of teaching aids in the schools.

It is worth mentioning that Al-Shaffi based his comments on the reports of senior teachers attending an advanced training course on which Al-Shaffi was one of the trainers. He did not himself visit the secondary schools or measure students' achievement motivation or attitudes.

As far as Arabic Language is concerned, a study by the Arabic Organisation for Education and Science (1987) revealed that the students in secondary schools have negative motivation to achieve and attitudes towards learning Arabic, despite all efforts being made to encourage them to attain a sound command of the language. The problem of low achievement in Arabic has been attributed by Nasrollah (1988), inter alia, to low

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[1] Definitions of these and other concepts are given in Chapter 3.

achievement motivation and negative attitudes toward the subject. However, Nasrollah did not support all his claims with empirical evidence.

Regarding English Language, several researchers including Arishi (1995) and Al-Shabbi (1989) also without empirical evidence, have claimed that Saudi secondary students were not motivated to achieve and had poor attitudes towards learning English, and that this was the reason for their unsatisfactory achievement.

Al-Ahaydib (1986) blamed low achievement in secondary schools of KSA on several factors, including several to do with the classroom environment. Factors mentioned included emphasis on the memorisation of materials, lack of students' participation in the class and shortage of language laboratory facilities and other audio-visuals aids.

Al-Hukbani (1991), after surveying studies on the work of EL teachers in Saudi Arabia, highlighted problems relating to teaching methods and teaching aids, such as lack of student participation and failure to use audio-visual aids.

However, the claims made regarding reasons for low achievement among Saudi secondary school students have often been based on hearsay or theoretical assumptions, rather than empirical evidence. Al-Shaffi's (1993) study, referred to earlier, is a case in point. There is, therefore, a need for empirical investigation to see whether some of these claims are justified. There is an additional reason for further research. As will be shown in Chapter Three, such empirical studies as have been carried out, were conducted before the latest change in the secondary curriculum (in 1989) and so do not reflect the current situation. For this reason, the present study was designed to seek further information about students' and teachers' feelings and perceptions in relation to these subjects, and the effects of affective and environment variables on students' achievement. The intention was to seek relationships between students' achievement

motivation, attitudes, the classroom environment, the use of teaching aids and their performance in the secondary school examination, in the three core subjects of Islamic Religious Science, Arabic Language and English Language.

1.3 Purpose of the Study

From these widely-expressed concerns, the primary aim of this study was to provide information on the achievement of Saudi secondary students in IRS, AL and EL, and on their affective responses towards these subjects. The second aim was to explore relationships between achievement and affective variables. The third aim was to provide information on teachers' perceptions of students' achievement, motivation to achieve, attitudes toward the subjects, and participation in lessons, and of their own teaching methods and use of teaching aids. The researcher was interested to see whether teachers' perceptions were consistent with those of their students, and with students' actual achievement and affective responses.

1.4 Significance of the Study

This study is original, in that little attempt has so far been made to examine affective variables and achievement in relation towards Islamic Religious Science, Arabic Language and English Language in Saudi secondary education. It is appropriate to carry out the study at this time, particularly as no such attempt has been made since the latest re-organisation of secondary education, almost ten years ago. In this respect, the study is expected to make a worthwhile contribution to knowledge in relation to factors which are commonly thought to affect students' achievement. By contributing to understanding of achievement motivation, attitude towards academic subjects and classroom environment, it may shed light on ways in which teachers can create a learning environment and adopt teaching strategies that motivate students and may be

conducive to success. It is hoped that the research findings in this respect might be of assistance to the educational authorities in the Kingdom of Saudi Arabia in their ongoing review and revision of the secondary school curriculum. It may also be of interest to teachers in giving them an understanding of students' perceptions and suggesting how they can promote student achievement. Of greater significance, however, is the exploring whether the assumed relationships between Academic Achievement on the one hand, and affective and environmental variables on the other, hold true in the Saudi context. In this respect some unexpected and highly significant findings are presented in this thesis, which have important implications for the Saudi education system. On the basis of this study, recommendations are derived which are expected to be of value to Ministry of Education in its efforts to improve both secondary schooling and teacher preparation for the secondary level.

CHAPTER TWO

THE EDUCATIONAL SYSTEM IN THE KINGDOM OF SAUDI ARABIA

2.1 Introduction

2.2 Basis of Education in Saudi Arabia

2.3 Educational Organisation in KSA

2.4 Ministry of Education

2.5 Objectives of General Education

2.6 The Curriculum in KSA

2.7 The Examination System in KSA

2.8 Teacher Training in KSA

2.9 Secondary Education

2.9.1 The Development of General Secondary Education

2.10 Islamic Religious Science

2.10.1 The objectives of teaching Islamic Religious Science

2.10.2 The Islamic Religious Science Curriculum

2.11 Arabic Language

2.11.1 The objectives of teaching Arabic language

2.11.2 The Arabic Language Curriculum

2.12 English Language

2.12.1 The objectives of teaching English language

2.12.2 The English Language Curriculum

2.13 Summary

Chapter Two

The Education System in the Kingdom of Saudi Arabia

2.1 Introduction

The purpose of this chapter is to establish the background of the present study, by familiarising the reader with some key features of the objectives, organisation and content of education in the Kingdom of Saudi Arabia. It begins with a brief overview of the system as a whole, including responsible authorities, the curriculum, the examination system and teacher training. It then focuses on general education, with special reference to the secondary stage. The history of this stage is outlined and an account is given of the four types of secondary school programme, which have been applied in the Kingdom over the past forty years. Finally, three sections are devoted to discussing the officially prescribed objectives and curricula for the teaching at secondary level of Islamic Religious Science, Arabic Language and English Language, the curriculum subjects with which this study is particularly concerned.

2.2 Basis of Education in Saudi Arabia

Islam is at the heart of Saudi education, as of all other aspects of life in the Kingdom, and educational objectives stress the moral and religious training of students, and their socialisation into the Islamic community, although this traditional emphasis is balanced by a concern for education to reflect world-wide advances in knowledge, and the requirements of socio-economic development.

The educational system in the Kingdom of Saudi Arabia (KSA) at all levels, primary, intermediate and secondary (general education) and higher education, is based on the principles of Islam. Islamic subjects constitute the core of the curriculum in all stages. According to the policy document, Educational Policy in Saudi Arabia (Ministry of Education 1974):

> "The fundamental purpose of education is to let students have an understanding of Islam through inculcating the Islamic tenets, providing them with good manners, developing in them knowledge and skills, promoting the growth of good behaviour, developing the cultural, social and economic aspects of the society and preparing a person to be a good citizen in building his society." (p. 12)

The Arabic language is the official language in all education in Saudi Arabia, though students also study English language from the intermediate stage. Education is free for all students, at all levels.

2.3 Educational Organisation in KSA

There are four main authorities responsible for education policy and its implementation in KSA. The Ministry of Education administers education for boys. The Presidency of Girls' Education is responsible for the education of girls at all levels, including university. The Ministry of Higher Education has jurisdiction over the universities and, through its various bodies, co-ordinates the development of higher education in the kingdom. The Organisation for Technical and Vocational Education takes care of industrial, commercial and agricultural education, technical foremanship training, and all levels of vocational training (see Figure 2.1).

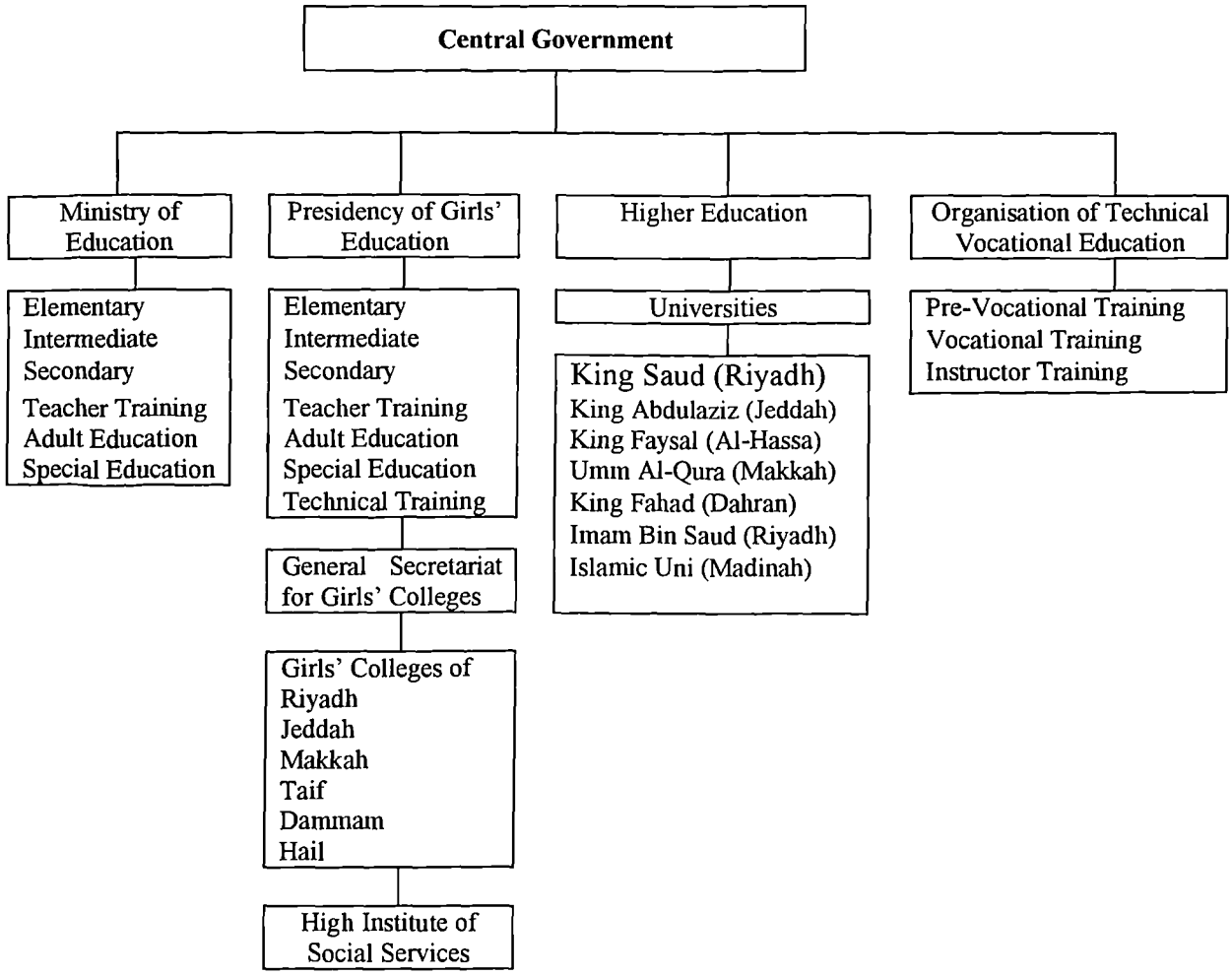


Figure 2. 1 The Main Authorities Responsible for Education Policy

2.4 Ministry of Education

The Ministry of Education is the official organisation supervising the education of male students throughout the kingdom. It was established in 1953 for the purpose of planning and supervising a project aimed at the provision of general education everywhere in the KSA.

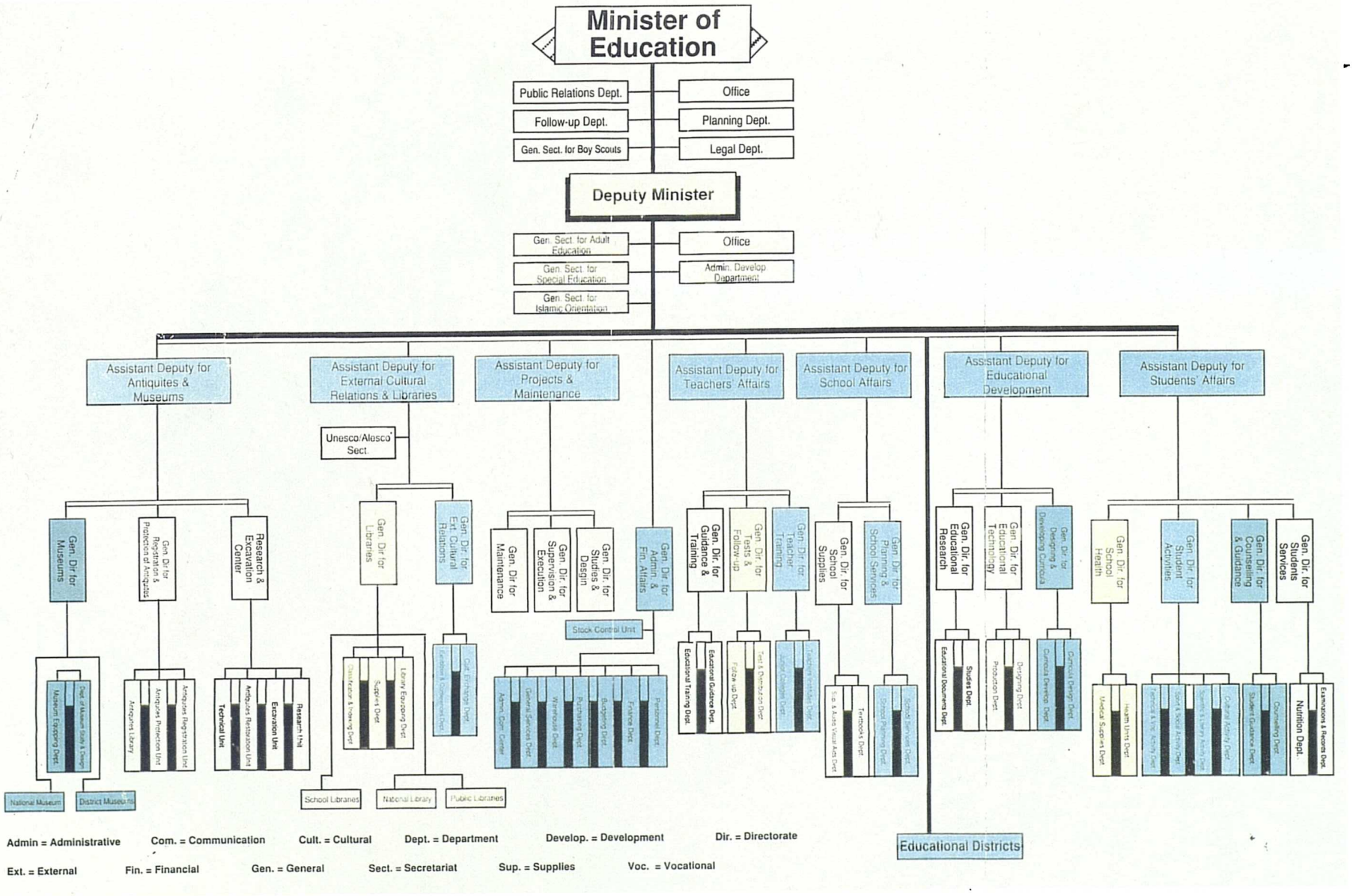
In 1953, in order to combat illiteracy, the Ministry of Education opened 13 evening schools for adults. Further, it established 406 elementary schools, 79 intermediate schools, 26 secondary schools, 18 teacher training colleges and five technical, agricultural and industrial institutes (Al-Sheihk, 1992). At that time there were seventeen educational directorates in different parts of the Kingdom, but these have now been expanded to forty-two directorates (Ministry of Education, 1997). A reflection of the work of the Ministry of Education since its establishment can be seen in Table 2.1 that shows the quantitative expansion of schools, teachers, classes and students in the secondary stage from 1960 to 1997.

Years	Schools	Classes	Students	Teachers
1960	16	76	1260	105
1970	50	368	9584	477
1980	259	2092	54841	3003
1990	581	4777	127042	8195
1997	1043	7716	221949	14290

Table 2. 1 The Quantitative Development in the main elements of the educational process in the secondary stage (1960 - 1997).

The Ministry of Education is headed by the Minister of Education who is responsible for a number of departments and assisted by a Deputy Minister who is in turn assisted by seven deputies (Figure 2.2).

Figure 2.2 Organizational Plan of the Ministry of Education, 1991



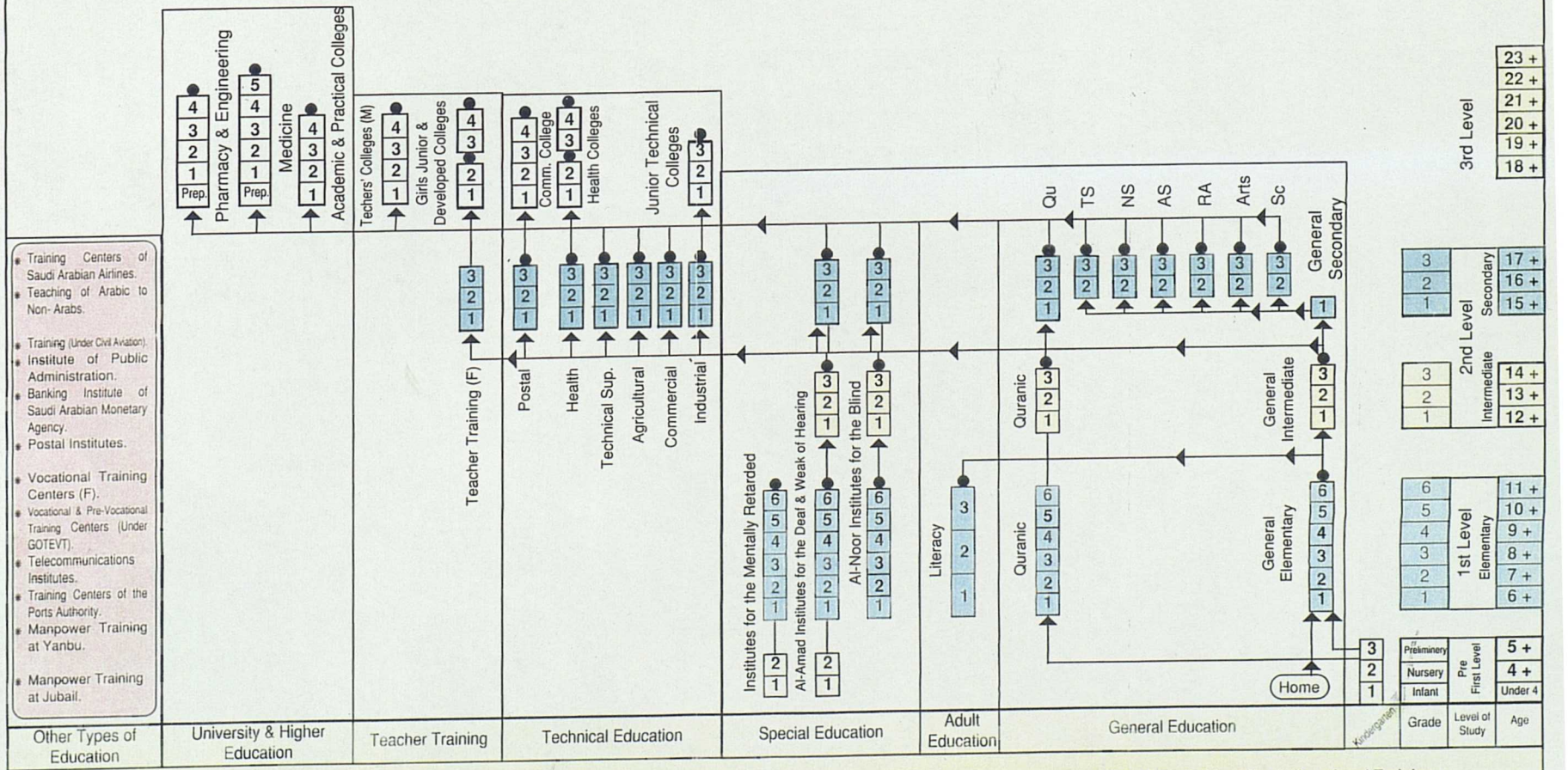
Source: Ministry of Education, 1994

Al-Majed (1996) suggests that the role of different sources of educational authority, particularly the Ministry of Education, together with the strong vertical hierarchy and the large number of possibly overlapping agencies - deputy ministerial, assistant deputy, and secretariat – may restrict the range of subjects taught across the system and across the curriculum. He contrasts this system with that in Britain where there are supposed to be checks and balances which prevent any one authority from exercising a monopoly of influence over schools, curriculum, teachers and pupils. It is possible that the administrative diversity of the Saudi system may lead to subjects such as Islamic Religious Science, Arabic language and English language being viewed differently by the various authorities.

The Ministry provides and oversees the following types of education: General Education (elementary, intermediate and secondary); Teacher Training; Special Education and Adult Education.

For the purposes of this study, however, the focus will be on one type, General Education. General Education refers to the entire educational system below university level. It consists of three stages, preceded by an optional kindergarten stage for children aged 4-6 years. The three stages are Elementary for students aged 6-12 years (grades 1-6), Intermediate for students aged 12-15 years (grades 7-9) and Secondary for students aged 15-18 years (grades 10-12) (Figure 2.3).

Figure 2.3 **FLOW CHART OF EDUCATION IN THE KINGDOM OF SAUDI ARABIA, 1994**



• End of a Stage.

AS = Administrative and Social Sciences - Comm. = Communications - F = Female - GOTEVT = General Organization for Technical Education & Vocational Training
M = Male - NS = Natural Sciences - Prep = Preparatory - Qu = Quranic - RA = Religion and Arabic - Sc = Science - TS = Technological (applied) Sciences - Sup = Supervisors

Source: Ministry of Education, 1994

Kindergarten is the only stage of Saudi education where the sexes are not segregated. Different types of kindergarten provide for different age groups: infant (under 4 years), nursery (4 - 5 years) and preliminary (5 - 6 years). The kindergarten stage aims to teach children good conduct, simple hygiene, and basic concepts and skills to prepare them for school life.

Elementary education, which lasts for six years, provides pupils with a foundation in Islamic culture and values, reading, writing, mathematics, and science. Islamic Religious Science and Arabic each account for approximately one third of the elementary timetable. Promotion from one grade of elementary education to the next depends on success in the annual examination. A final examination at the end of grade six leads to the award of the Elementary School Certificate, which is a prerequisite for continuation to intermediate education.

Intermediate education is open to students who have successfully completed elementary school. Of the 33 lesson periods per week at the intermediate stage, eight are devoted to IRS and six to Arabic. Students also start English in the intermediate stage; it is a compulsory subject, taught for four periods a week. Students need to pass an examination at the end of each grade in order to be promoted to the next grade. At the end of the intermediate stage, students take a completion examination in order to obtain the Intermediate School Certificate. Possession of this certificate is a requirement for entry to a range of general and vocational secondary education programmes.

Secondary education, as the main focus of this study, will be discussed in detail in a later section. At this point, it is sufficient to note that performance in the Secondary School Certificate examination at the end of Grade Twelve determines which Higher Education alternatives (if any) are open to students.

2.5 Objectives of General Education

The objectives of general education in KSA are in accord with Saudi customs and beliefs. These objectives are as follows:

1. to provide Saudi children with good understanding and to equip them with Islamic values, ideas and principles;
2. to provide children with various skills and knowledge in order to enable them to translate from other languages and to apply science and general knowledge within the Islamic culture;
3. to provide children with a training programme and reorientation to enable them to keep pace with new developments (Ministry of Education, 1974).

Al-Salloom (1988) stated that there are four major sources of educational objectives;

(i) Arabic and Islamic culture;

(ii) social, economic and environmental conditions;

(iii) advances in science and technology;

(iv) Saudi development needs.

Also, the objectives encompass six types of concerns:

(i) Islamic law;

(ii) cognitive development;

(iii) skills;

(iv) scientific reasoning;

(v) moral development, social behaviour and habits;

(vi) an appropriate social value system.

In the light of these general objectives, the three academic subjects which are the focus of this study have particular significance. The first objective, and the first, fifth and

sixth of the concerns identified by Al-Salloom are addressed primarily through IRS, though other subjects, too, are taught from a distinctively Islamic perspective.

The teaching of Arabic language is fundamental to all of the educational objectives listed. It serves the first, because Arabic is the language of the Quran and the Hadeeth. It serves the second and third objectives as a medium of communication, the key to written information and a vehicle for expressing ideas.

Finally, English language is considered to be a means of serving the second and third objectives, as many sources of information are written in English and because it is an international language which facilitates communication with many other people from different cultures and in various areas of expertise.

2.6 The Curriculum in KSA

Both the Ministry of Education and the Presidency of Girls' Education have a Department of Curricula which, through their National Curriculum Committees, develop curricula in different subjects for the various stages of education in the light of the national objectives set in the Kingdom's education policy.

At the Elementary Stage subjects are taught with the main emphasis on Islamic Religion, Arabic language, social studies, general science and mathematics. At the Intermediate Stage, emphasis is laid on Islamic Religion, Arabic and English language, social studies, science and mathematics. At the Secondary Stage, stress is on Islamic Religion, Arabic and English language, social sciences, natural sciences and mathematics.

The main characteristic of the education system in KSA is its centralisation. Al-Mohaissin (1993) indicated that the education system in Saudi Arabia is very tightly centralised, with all aspects being subject to central control, and policy matters being legislated centrally by the Ministry of Education. Curricula and syllabuses are uniform across the country.

Al-Ajroush (1980) criticises the curriculum as not adapted to current needs of economic and social development, and attributes this to the failure to involve teachers, parents and students in the decision-making process. He also argues that a major shortcoming of the Saudi education system is that the decision-making is not informed by contact with current daily activities or practices in schools. The primary job for the district educational authorities is only to transmit the regulations of the Ministry of Education to schools. Teachers are required merely to transmit the prescribed subject-matter to the learners, without involvement in curriculum development.

A report in Okaz Daily Newspaper (1993) commented on problems of curriculum overload and the prevalence of traditional teaching methods. For each subject, there is a prescribed textbook, and the teacher must cover a specified number of units or chapters each term, irrespective of the ability of students. The quantity of material to be covered was said to be unrealistic in relation to the time available. It is perhaps for this reason, it was suggested, that teaching relies mainly on the lecture method.

Massialas & Jarrar (1983) pointed out that whereas in many countries, it is usual for teachers to develop their own materials to compensate for any shortcoming in the available textbooks, or to tailor materials more exactly to the needs of their pupils, this is not the case in Arab schools. This is because of the rigidity of the official curriculum and the perceived sanctions associated with its violation, which discourage the development of teacher-made materials and use of local resources. Furthermore, the development of materials does not form part of teacher training. So teachers tend to view such activity as beyond their capability and responsibility. Saudi Arabia is no exception in this respect. A process of curriculum reform is underway in KSA as Al-Ajroush (1980) pointed out, but it does not cover all subjects. For example, the Islamic Religious Science and Arabic language curricula have both remained unchanged for over 20 years. Al-Shaffi (1993) stated that in the contrast to the rest of the educational curriculum including English language, mathematics, natural and social sciences and arts, which have kept pace with modern times, there has been no change in the curriculum, nor, he claims, has there been any change in teaching methods in Islamic Religious Science or Arabic language. The curricula of Islamic Religious Science and Arabic will be discussed in more detail in later sections.

2.7 The Examination System in KSA

Pupils' progression from grade to grade in schools of KSA is decided by an internal examination in each grade. The school year is divided into two semesters. At the end of each semester, there is a written examination that covers the material taught in that semester in every subject. The examination in every grade is set by the school, until the second semester in the final year of the secondary school, when the examination is set by the Ministry of Education and is common to all schools in KSA.

According to the examination policy in KSA (1970) the total mark for the year is divided between the two semesters, 50% for each semester. Within each assessment 30% of the total mark is given for continuous assessment and the remaining 70% for the written examination. In elementary and intermediate schools, the minimum pass mark for individual subjects is 40% in arts subjects and 50% in science subjects; however to pass the grade as a whole, the pupil's overall score must be at least 50% of the total obtainable mark. In secondary school the minimum pass mark is 50% of the total mark in every subject.

Examinations are based on the prescribed text book and rely to a large extent on students memorising the content of that book. There is no deliberate test of comprehension, creative writing, or independent analysis.

Walkin (1990) recommends that the assessment procedures should be introduced in co-operation with the candidate who will be assessed, and that, where possible, they should incorporate written, practical and oral techniques to facilitate establishment of an adequate and fair profile of competence.

This is, however, not the practice in Saudi Arabia. Assessment is dominated by written and oral tests. Al-Majed (1996) mentioned that teachers tend to gear their teaching

towards the examinations because a high rate of success among students can favourably affect the teacher's own annual report. He also points out the damaging psychological effect on students and their parents of examination anxiety in a society where scoring less than the arbitrary pass mark is seen as degrading.

There is a danger, then, that teachers and students focus on passing the examination, rather than on understanding and independent thought. Moreover, there is a tendency to undervalue and neglect extra-curricular activities, because they do not contribute to the final assessment.

2.8 Teacher Training in KSA

There are two types of teacher training programme. The first, usually called "pre-service training", is for trainees at the undergraduate stage and is designed to train teachers to teach in primary, intermediate or secondary schools.

Pre-service training in KSA is consistent with the definition given by Rowntree (1981), who describes it as teacher education and professional training provided at universities or colleges of education to prepare students for employment as teachers. Its duration is usually four or five years, depending on the different systems in each country. In addition to training for teaching, this type of training course also aims to give students a professional mastery of a major field of study, such as Islamic Religious Science, Arabic or English language, at a level sufficient to teach the subject at the appropriate educational level.

Saudi teachers of Islamic Religious Science, Arabic or English Language in the intermediate and secondary schools may be trained in one of two ways. The first approach is a four-year University level programme usually leading to a Bachelor of Science or Arts degree. Graduates of colleges of Art or Science are usually asked to take a diploma or course in education offered by the Education Department at Universities in conjunction with the Ministry of Education. Alternatively, students may undertake a four-year course in one of the five Faculties of Education in the Universities. These Faculties contain various academic departments such as Islamic Studies, Education, Fine Art, Social Studies, Arabic Language, Sciences, Foreign Language, Mathematics and Chemistry.

In order to enrol on a teacher training course, students normally need to have gained an average mark of from 70 to 85% (the exact requirement varies from one university to another) in the Secondary Certificate Examination.

Teaching on the teacher education courses in the universities and colleges is by subject specialists (normally with a masters degree). The teacher trainers do not necessarily have experience of teaching in a school.

The teacher training programme includes a period of teaching practice in the final year. The co-operating teacher and head teacher in the practice school contribute about 20% of the students' teaching practice assessment, the remainder being the responsibility of the supervisor from the college. However, schools do not have any influence on the teacher training curriculum. This is set by the university, under supervision of the Ministry of Higher Education.

The researcher, from his observations as a supervisor of student teachers of Arabic language and Islamic Religious Science, has found that trainee teachers face many problems in the schools, in such areas as using teaching aids, applying various teaching methods and using different types of assessment. Al-Hakami (1992) conducted a study to evaluate the educational programme in Taif Educational College of Umm Al-Qura University, and found major shortcomings in some courses. For example, the course on Teaching Aids was taught without attention to practical training; the students saw the different types of teaching aids only in books, and were assessed only by written examination. Such deficiencies in teacher training are likely to lead to perpetuation of inadequate and out-dated methods when the trainee graduates and begins teaching in a school. This may explain Al-Hukbani's (1991) finding that most of teachers of English language did not use the teaching aids, did most of the talking and did not allow time for

students to participate. Some teachers of English spent most of the time correcting students' grammatical and phonetic mistakes.

Thus, pre-service teacher training in its present form does not appear to prepare teachers adequately to use varied, participative teaching approaches, although it is now widely held by educationists that such methods are both more interesting for students and more helpful to develop useful skills (the advantages of participative teaching methods are discussed further in Chapter Three).

The second type of training programme offered is in-service training, designed for qualified teachers and intended to up-date their knowledge of their subject and the associated teaching methodology and pedagogy.

In the United Kingdom, the Department of Education and Science (1970 cited in Henderson, 1978) has defined in-service training as any activities which a teacher undertakes after he or she has begun to teach, which is concerned with his or her professional work.

According to Harris (1980) in-service education means:

> "any planned programme of learning opportunities afforded staff members of schools, colleges, or other educational agencies for purposes of improving the performance of the individual in an already assigned position." (p 21)

The Ministry of Education and the Presidency of Girls' Education increasingly emphasise in-service teacher training, as a means for disseminating and encouraging modern educational approaches (Ministry of Education, 1994).

In KSA the Ministry of Education in 1975 created a new department, The Educational Training Directorate, to participate with other responsible agencies and educational

institutions in the creation, execution and evaluation of in-service training programmes for public school personnel. According to the Ministry, the aims of such programmes are to improve the professional capabilities of school staff, to enhance their competencies, (whether in teaching or administration), to up-grade their standards, to up-date their knowledge of academic subjects, and to enrich their understanding of cultural, scientific and educational concepts (Ministry of Education, 1992).

The policy of in-service education is jointly formulated and drawn through co-operation between several governmental agencies: the Ministry of Education; the General Presidency for Girls' Education, the Ministry of Planning and the Civil Service Bureau for government employees. However, the training itself is the responsibility of the Ministry of Education and the Presidency for Girls' Education, which initiate, design, organise and delivered programmes and activities through their training departments.

The objectives of in-service education and training in KSA have been identified by the Ministry of Education as follows:

- To retain and rehabilitate those teachers and school administrators who have been inadequately prepared, and those who possess low-level educational certificates.
- To provide for public school personnel opportunities to up-date their skill level and raise their standards.
- To provide teachers with an opportunity to keep abreast of developments in their subject area, and to acquire new teaching skills and methodology (Al-Salloom, 1995).

Generally, it could be said that the purpose of in-service education is to improve the quality of teaching and as a consequence, the quality of education in KSA.

Two types of in-service education activities are planned by the Ministry of Education. These programmes are classified as short-range and long-range. Some in-service activities are conducted domestically, either by the central office at the Education Training Department, or by the local school districts, while others are conducted abroad, mainly in other Arab countries such as Egypt, and in foreign countries such as Great Britain and U.S.A.

Short-range programmes extend from one to twenty days in most cases. Although all in-service education activities are initiated and planned centrally by the Education Training Department at the Ministry of Education or G.P.G.E., some activities are carried out by the local school districts rather than central department. These local programmes are intended for first-year teachers, and are designed to orient the new teacher to the school environment, and to his/her new responsibilities. These programmes often include seminars, discussions, and lectures, all of which are conducted by the school supervisors, either in the school building or in the district headquarters. Central activities carried out by the Education Training Department are planned to meet curricular needs and designed for subject teachers. Emphasis is placed on introducing new subject matter to the teacher, and on methods of teaching his/her specialist subject. These programmes are delivered mainly through lectures. Activities are introduced by supervisors, college instructors, and university professors, depending on the subject being introduced and the availability of experts in the relevant field.

Short-range in-service education programmes conducted outside the country are planned primarily for Saudi educational leaders, such as school administrators, supervisors and Ministry of Education personnel. They are intended to give leaders opportunities to acquaint themselves with the educational practices and experiences of

educational systems in other nations and cultures. Activities include attending conferences and workshops, and visits to schools and other educational institutions.

A few short-range in-service activities for teachers have been conducted abroad. These have usually focused on academic subjects and teaching methods, particularly science and foreign languages. The reason for sending teachers outside the country for training was that there was a shortage of trainers and training facilities inside the country.

Between 1980 and 1990 such training was offered in the field of English language; it took the form of Summer courses in Great Britain. Since 1990, however, the government has not made this type of in-service training available to Saudi teachers.

Long-range programmes are planned almost exclusively for Saudi educational leaders and conducted domestically by colleges of education or in institutions abroad. Domestic programmes may last from one to three years and lead to higher diplomas. Participants in programmes abroad are encouraged to study for higher level degrees, such as MA or PhD. The programmes concentrate on educational studies, including professional education, and consist of educational planning, administration, comparative education and educational systems, curriculum construction and design, educational philosophies and foundations, educational psychology, and teacher education. Delivery methods include university courses, lectures, seminars, conferences, workshops, and visits to educational institutions. Long-range programmes conducted abroad are offered mainly in the U.S.A.

Al-Gamdi (1982) emphasised the need of all Saudi teachers for continuous training in order to maintain their teaching skills. He argued that Saudi teachers are in great need of such training in almost all teaching skills and competencies, yet criticised in-service

education practices in Saudi Arabia at the present time as being incompatible with the challenging role encountered by teachers.

2.9 Secondary Education

Since this study is concerned with students in the third year of secondary education, this section will focus in more detail on the secondary stage of the educational system in KSA.

Secondary education in Saudi Arabia can take many forms. In addition to general academic secondary education, there are religious-oriented secondary schools such as those under Imam Bin Saud Islamic University, the Quranic secondary schools and Dar Al-Tawheed secondary schools. In the technical field, there are the industrial secondary institutes, the commercial secondary institutes, the agricultural institutes, the postal secondary institutes, the technical supervisors institutes and the health institutes. Education at the secondary stage is available to all students who have the Intermediate School Certificate (Ministry of Education, 1974). The choice as to which type of secondary education to pursue is partly a matter of individual and family preference, though some institutions may have their own entry requirements in terms of the mark obtained in the Intermediate Certificate or evidence of aptitude in particular subjects.

The secondary stage is the final phase of general education in the Kingdom. It is considered the most important period in the general education ladder because at the end of the secondary stage, a student must take a comprehensive examination, which is administered by the Ministry of Education. Students who complete this stage are eligible to enter higher education, though institutions differ in the examination grades they require of entrants with higher grades required for some courses (particularly medicine and science) than others. Students with only a low-level pass in the grade 12 examination will have great difficulty finding a place in a tertiary level institution.

2.9.1 The Development of General Secondary Education

Under the present system, secondary education encompasses several different types of school: the general secondary school, the commercial secondary school, the vocational secondary school, and the agricultural secondary institute (Al-Hugail, 1992).

General Secondary education has passed through several developments during recent years with the aim of satisfying students' needs and offering them more choices. In fact, there have been four distinct types of general secondary school in the Kingdom, some of them being experimental. Traditional Secondary Schools (TSS) were first established in 1958. In the TSS system, after the first year, students could specialise in science or the arts, for two years. At the end of this time, successful students received a general secondary certificate indicating which branch they followed.

The Comprehensive Secondary School (CSS) was introduced in 1975 in the four main Saudi cities of Riyadh, Dammam, Makkah and Jeddah, with one school in each city taking part in this experiment. These schools were able to give students more opportunities to choose subjects, enabling them to participate in different activities, e.g. library, laboratory work and so on. The schools were organised by departments: Religion and Human Relations; Languages and Social Studies; Science; Education; Mathematics and Natural Science, Industry; and Agriculture and Trade (Al-Hugail, 1992). Moreover, the CSS followed the credit hours' system, enabling students to study for 120 credit hours plus 30 hours of activities, in two semesters per year, taking groups of compulsory and selected subjects. The rationale for introducing this type of secondary school was said to be that:

> "the general secondary school did not meet the requirement of the state's development planning because the subjects did not prepare students to participate in all fields of life. This system did not give chances for curriculum development and

> it did not take full account of the individual differences among students." (Al-Faleh, 1989)

In 1986, The Ministry of Education tried another type of secondary school project, the Developmental Secondary School (DSS), which required students to study for 180 credit hours over six terms. Some of the aims of the DSS were:

1. to expand the scope of secondary education to include new curricula and programmes more in keeping with the perceived demands of modern Saudi society;
2. to prepare secondary school students for their careers and help them to participate effectively in the developmental plans of Saudi society by providing them with the appropriate training;
3. to prepare students for further and higher education in their chosen fields of study (Ministry of Education, 1986a).

The programme in DSS schools was made up of three components: general subjects; specialist subjects including Islamic and Arabic science, social and administrative science, and natural science; and additional subjects (physical education, art, English language and computing) (Al-Sonbol et al, 1992).

However, the Ministry of Education took a decision in 1992 to give up the credit hour system in all Saudi secondary schools on the ground that this style of secondary education was not appropriate to the customs of Saudi Society. It was also influenced by the shortage of equipment and school buildings (Ministry of Education 1992). The system was phased out within three years and there was a return to the traditional system, but with some modernisation.

In the current system, known as the Traditional Modernised Secondary School (TMSS) system, all students follow a general course in the first year (as with the TSS). However, after successful completion of the first year, students move into one of four branches for

the second and third year depending on the percentage obtained in the final exam in the first year; those with a low percentage are accepted into the Arts departments (the Religious Science and Arabic Language Department and the Administrative and Social Sciences Department), while higher-scoring students can enter the Science departments (the Natural Sciences Department and Applied Sciences Technological Department). As yet, however, the Administrative and Social Science and the Applied Science branches, which are still being introduced on an experimental basis, are not yet available in all secondary schools.

COURSES	1st year (General)	The Religious Sciences and Arabic language Department		The Administrative and Social Sciences Department		The Natural Sciences Department		The Applied Sciences(Technological) Department	
		2nd year	3rd year	2nd year	3rd year	2nd year	3rd year	2nd year	3rd year
Islamic Religious Science	5	12	12	6	6	5	5	5	5
Arabic Language	6	9	9	4	4	3	3	3	3
Administrative Science	2	---	---	6	6	---	---	---	---
Social Sciences	---	3	3	4	4	---	---	---	---
Science	6	---	---	---	---	13	13	13	13
Maths and Statistics	5	---	---	4	4	6	6	6	6
English Language	4	4	4	4	4	4	4	4	4
Computer	1	1	1	1	1	1	1	1	1
Research & Library	1	1	1	1	1	---	---	---	---
Sport	1	1	1	1	1	1	1	1	1
Activity	1	1	1	1	1	1	1	1	1
TOTAL	32	32	32	32	32	34	34	34	34

*(Figures represent number of hours teaching time per week)
Table 2. 2 Plan of Study in the Secondary School (TMSS), in The KSA (Ministry of Education1996).

Table 2.2 shows that secondary education encompasses eleven subject areas, of which six (Islamic Religious Science, Arabic language, English language, Computers, Sport and Activity) are common to all four branches, though the time allocated to some subjects differs from one branch to another. For example, students specialising in Islamic Religious Science and Arabic language have twice as many hours devoted to Islamic Religious Science and two or three times as many hours devoted to Arabic, as students in other branches. Some other subjects are considered relevant only to

particular specialisations; for example, Social Science and Research/Library appear on the timetable for both Islamic Religious Science and Administrative/Social Science students, but not for Natural or Applied Science students.

Whereas Table 2.2 shows the different plans of study for the various specialisms within secondary education, Figure 2.4 shows the percentage of the curriculum devoted to each subject across all four branches to TMSS. It can be seen from the figure that the greatest priority is attached to Islamic Religious Science, which accounts for 21% of the time table (61 of the 296 hours teaching time per week, across the two years of the four TMSS branches). The other subjects with which this study is particularly concerned, namely, Arabic and English, also have a substantial share of the overall timetable: 14% (44hours) and 12% (36 hours) respectively. Thus, between them, the subjects of concern to this study account for almost half of all teaching in new secondary system (141 out of 296 teaching hours). The content and teaching of these three subjects will be considered in more detail in the sections which follow.

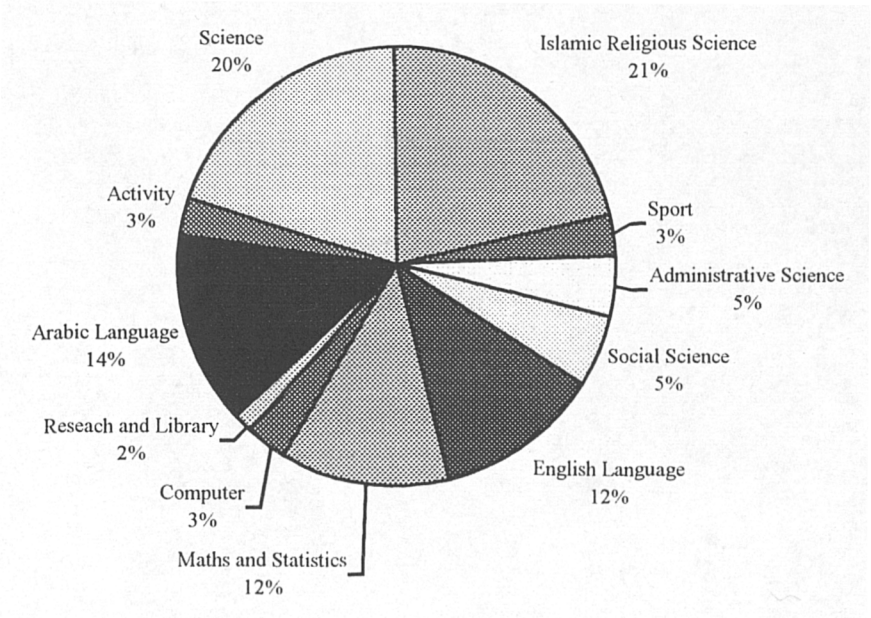


Figure 2. 4 Distribution of the weekly classes in the new secondary school education system (Source: Al-Rasheed, the Ministry of Education, 1996).

2.10 Islamic Religious Science

Islamic Religious Science (IRS) is a very important part of education in Saudi Arabia because it has the objective of providing guidance for all aspects of day-to-day life, laying the foundation for the individual's personal and moral development and his future role in society.

Al-Mofda (1989) distinguished between Islamic Education, a general term used to refer to the inculcation of Islamic principles and way of life in various contexts, in the home, school, and society, and Islamic Religious Science, described as "the teaching of religion in the school, in the classroom, and in classroom activities as a part of the formal Educational curriculum". It is with the latter that this study is concerned.

2.10.1 The objectives of teaching Islamic Religious Science

According to Al-Shaffi (1993) the objectives of Islamic Religious Science are as follows:

1. To provide students with a foundation of the knowledge base of their traditional religious beliefs.
2. To satisfy students' religious needs and to answer the many questions they bring with them to school concerning their religion.
3. To correct misconceptions and errors they have concerning their religion.
4. Generally, to satisfy the natural curiosity of the students.
5. Specifically, to satisfy and respond to students' intellectual, spiritual, and emotional needs concerning such matters as religious sentiment, a sense of loyalty, security and appreciation of themselves, their families, their friends, their country and Allah (God).

6. To help students find new values and beliefs which are supported by their religion.
7. To train students to stand up to and resist values and beliefs that are unacceptable or undesirable.
8. To encourage and reinforce students' good behaviours.
9. To have students memorise parts of the Quran and the teachings of the prophet - peace be upon him.
10. To prepare students, as Muslims, to live appropriately in this life, and to prepare them for the life to come.
11. To teach students to understand the difference between right and wrong and to differentiate between that which is true and that which is false.

In brief, the objectives of teaching Islamic Religious Science are affective rather than psychomotor or cognitive. They are concerned to socialise the individual into the Islamic religion and culture. Many appear to be intangible, which would seem to present obvious problems for assessment and evaluation. On the other hand, the curriculum itself is detailed and specific, centred on specific texts and interpretations of them which the student is expected to learn and be able to reproduce.

2.10.2 The Islamic Religious Science Curriculum

The Islamic Religious Science (IRS) curriculum contains five elements, each regarded as a separate course. They are:

Quran The Quran is the final Word of God Almighty to humanity and revealed to His Prophet Muhammad over 1,400 years ago. In the context of the IRS curriculum, it refers to a distinct taught subject, i.e. the Recitation of the Quran.

The Prophet Muhammad himself encouraged his followers to recite the Quran in a melodious tone.

It is considered necessary to acquaint students with the basic and correct mode of reciting the Quran, to ensure its accurate preservation, and appreciation of its beauty. Recitation is believed to enhance both aesthetic appreciation of the Quran, and also its meaning. Hence, this practical and almost musical discipline forms an integral part of IRS as taught in Saudi schools. The correct recitation of all the short Quranic Chapters is taught initially by rote and thereafter by Tajweed (rules of recitation), which clearly helps to distinguish the recitation of Quranic text from any other text. Students are also expected to memorise these short chapters.

Tafseer: This term, which means to interpret or explain, here refers to the discipline of interpreting and explaining the Quran. Because of the importance of the Quran as guidance from God to all humanity and its due impact on the entire life of Muslims, the need to understand and interpret it in the light of time, place and context, is considered to be of first importance in the Saudi educational process.

The syllabus does not follow the usual scholastic way of covering all sub-disciplines of Tafseer, but rather covers selected verses and short chapters of the Quran. Each extract is accompanied by an explanation of any new or unusual vocabulary, and of the context or circumstance (if any) that necessitated revelation. This is followed by a summarised explanation of the text, and finally by essential lessons or rulings that can be derived from it. Students' role in lessons is very passive. They read from the standard text and listen to explanations provided by the teacher. For homework, or in examinations, they are required to write short answers to questions based on the content of the textbook; to answer the questions, they need do no more than memorize and reproduce exactly what they have read or been told in class.

Hadeeth: The general meaning of this term is speech, saying or utterance. In the context of the IRS curriculum, it refers to the collecting, recording and authentication of the Prophet's sayings and deeds, and of conduct of which he gave tacit approval, as a guide to Islamic conduct.

The curriculum seeks to acquaint students with the Hadeeth, not through the commentaries of the scholars, but rather in a more direct way with the actual sayings of their Prophet (p.b.u.h.), from authenticated sources. This is considered to be vital in shaping their outlook on life. So the syllabus at all levels acquaints students with a selection of the Prophet's sayings and teachings on a variety of subjects, ranging from matters of worship to environmental and humanitarian issues. Teaching methods are similar to those used for Tafseer.

Tawheed: means "making one", i.e. asserting the oneness and uniqueness of God in every possible way. As this is the most important principle of the Aqeedah (Beliefs) Islam, it is taught as a distinct topic. Students are taught not to compromise the oneness of God in His Divinity, in His Lordship and His Names and Attributes. As with Tafseer and Hadeeth, students' role is generally passive. Any questions and discussion are normally confined to clarifying points in the textbook.

Figh: means understanding rulings of the law. It can be viewed as the legalistic or jurisprudential side of Islam in that it covers everything that could be made a ruling or matter of law from the texts of the Quran and the Hadeeth. This is considered to be ideally suited study for students at all levels of the Saudi education system.

The subject is treated at various levels of complexity, according to the age level of the students. Furthermore, every duty, obligation or right is taught with its evidence from the Quran or Hadeeth, so that its true source of authority is not forgotten. Many of the

rules are taught in a didactic way, requiring memorization of material from the textbook. However, because Figh deals with the way Islam is applied in daily life, practical demonstrations are given whenever possible and students are encouraged to practise Islamic rituals and duties, e.g. performing the mid-day prayer, at school.

Looking at these five elements, there are obvious areas of overlap between them, and the division for teaching purposes into five separate courses seems somewhat artificial. Tawheed, in particular, would seem to be a principle that is inextricably linked with all other elements of IRS.

The curriculum appears to be consistent with most of the objectives outlined earlier. There is provision for providing basic knowledge, correcting misconceptions (or at least inculcating accepted interpretations), encouraging appropriate behaviour, memorising parts of the Quran and Hadeeth, and instilling a sense of right and wrong, true and false. However, it is not clear how the curriculum takes into account individual differences in intellectual, spiritual and emotional needs, as it is somewhat inflexible. Teaching is based on the lecture method using standardised texts, and there is much reliance on memorisation and rote learning. The teaching approach is highly didactic.

2.11 Arabic Language

The official language of the Kingdom of Saudi Arabia is Arabic and although a number of Arabic dialects are spoken, standard Arabic, taught in schools, is used in formal oral contexts and in written communication. The learning of Arabic language (AL) is accorded special importance among Muslims, because it is considered to be the language of revelation; it is the language in which the Quran and the Sunah (the traditions and practice of the prophet Mohammed – peace be upon him -) are written. Arabic also has social importance as the means by which the Arab and Islamic culture and heritage are transmitted. Finally, it serves as a unifying bond among Arabs of more than twenty countries, both as a means of official communication and as a symbol of Arab national identity (Al-Kholy 1986).

2.11.1 The objectives of teaching Arabic language

The objectives of learning Arabic in Secondary School are:

1. Maintaining Allah's book (the Quran) and the tradition of the prophet (As-Sonnah), transmitting the principles of Islam and its basic law, `Shariah; encouraging students to take pride in the Islamic nation's civilization and pursue ways of developing their nation;
2. Developing students' linguistic ability, so that they are able to express their ideas effectively;
3. Developing students' appreciation of literature, enabling them to recognize linguistic styles and figures of speech and to recognise key points in a text.
4. Developing students' ability to use standard Arabic properly in speaking and to read and write without mistakes;

5. Helping students to understand the Quran and the prophet's sayings and appreciate the beauty of poetry and prose in standard Arabic ;
6. Accustoming students to using the library, looking into Arabic works of reference, summarising what they have read and writing assignments on Arabic subjects;
7. Encouraging the status and widespread use of standard Arabic, to support the relationship among Arabs (Ministry of Education, 1974).

It can be seen that there is a strong relationship between the objectives of Arabic and Islamic Religious Science. For example, the first and fifth objectives listed for Arabic both focus on ability to read and understand the Quran. They also refer to transmission of Sharia (Islamic law) and the Prophet's sayings (Hadeeth). Thus, the Arabic course appears to be intended to support and reinforce the IRS course, particularly the Quran, Hadeeth and Figh elements.

Another point worth noting is that the objectives refer three times (in objectives 4, 5 and 7) to standard Arabic. There are numerous colloquial variants of Arabic throughout the Arab world, and Modern Standard Arabic, which is the "official" form of Arabic, serves a potentially important function as a unifying force. However, it presents difficulties for students, in that the Arabic they learn in school is often not the Arabic they speak at home or hear and read in the media.

It is also notable that most of the objectives are functional in orientation. There are no objectives concerned with encouraging students' creative, imaginative use of the language. Nor is there any expressed intention to encourage students to read widely for pleasure; the only objectives concerned with reading are those connected with analysing literary texts and using reference books.

2.11.2 The Arabic Language Curriculum

The Arabic Language (AL) Curriculum is divided into five courses. They are:

Phraseology and memorisation, "Nosus": This course consists of texts taken from the Quran and Hadeeth as well as from the poetry and prose of various periods. The main aim of this course is to provide students with a knowledge of fine-text, vocabulary and language style, which they can recite in later life.

Reading, "Kera ah": The contents of this course are similar to those of the Phraseology course. The main aim of this course is to increase students' linguistic and lexicographic abilities and skills, and to enable them to read and understand texts fluently and correctly.

Grammar, "gaoa id": This is the study of grammatical rules for forming sentences and for the combination of words into sentences, syntax and the forms of words, morphology. The main aim of learning grammar is to improve students' ability to speak, write and read standard Arabic Language properly. Rules should be studied, not for their own sake but to help students to avoid grammatical mistakes and enable them to comprehend correctly.

Dictation and Handwriting, "Imlaa" and "Khatt": This course is composed of grammatical writing guidelines and principles and practical texts. It aims to teach students to write properly, correctly, legibly and in a pleasing but uniform style.

Composition, "Inshaa" or "Tabeer": This course involves creative and functional writing. It aims to enable students to compose and formulate their ideas and feelings in writing or speech.

The curriculum reflects the predominantly functional orientation of the objectives. The Phraseology and Reading courses serve the first and fifth objectives, while the

Grammar, Dictation and Composition courses are evidently intended to serve the second objective, and that part of the fourth objective which is concerned with accurate writing. However, there appears to be no provision for developing students' speaking and listening skills or using reference books. Moreover, the formal treatment of literature may give students a knowledge of literature (for example the ability to recite a poem or passage of prose) but it seems less conducive to developing appreciation of literature, which is one of the stated objectives.

Another criticism which may be made of the Arabic curriculum, as with the IRS curriculum, relates to the artificial division into five courses, particularly as there is evident overlap between the Phraseology and Reading courses, and between the Grammar and Dictation courses. Language skills are (or should be) closely interrelated. Indeed, the division into five courses has come under criticism from educationalists and linguists (Al-Rashid, 1996).

2.12 English Language

English Language (EL) is the only foreign language to form a compulsory part of the school curriculum. Students begin to learn English in their first intermediate year and continue learning the language throughout their formal education. At a higher level, English is used as a medium of instruction in the majority of colleges, particularly amongst students of medicine, engineering, sciences, and, of course, English.

In general, the rapid growth of industry and commerce has led to the recognition of English as one of the most important languages in Saudi Arabia, in view of its importance as an international language vital to the business, economic, communications and other needs of the country. A reasonable knowledge of English provides access to better paid employment. Achosen (1974) points out the need for English language which has arisen in Saudi Arabia, in both the governmental and public sectors, due to the huge influx of non-Arabic speaking expatriates who come to work in the country, as well as the tremendous numbers of pilgrims who come from all over the world every year during the pilgrimage season to visit Makkah. The result of this has been a recognition of the value of learning English and a decision to accord higher priority to its teaching (Arishi, 1993).

2.12.1 The objectives of teaching English language

The following seven general objectives for the teaching of English to students at secondary level, both in Science and Arts branches, reflect the value of English:

1. To afford secondary school students another window on the world;
2. To broaden secondary school students' experience through reading samples of English that have a universal appeal, both in arts and sciences;

3. To cultivate the student's critical thinking as a useful adjunct to intelligent reading of English texts;
4. To give play to the student's imagination by means of imagery in both poetry and visualisation of character;
5. To provide students who intend to enter university or other higher institutes with an adequate knowledge of English to help them in their future studies;
6. To give students who finish formal education in the third year of secondary education sufficient knowledge of the language to help in their care;
7. To help students to gain a reasonable command of English in order to be in a better position to defend Islam against adverse criticism and to participate in the dissemination of Islamic culture (Ministry of Education, 1974).

These are very broad statements which indicate what the Ministry hopes students will gain in later life from having studied English, but shed little light on what students are expected to know or be able to do. Moreover, while they take account of the value of foreign language learning as a means of expanding students' cultural horizons (in the first of the objectives listed), the seventh objective listed makes clear that English, like other subjects in the curriculum, is to be directed to specifically Islamic objectives.

The following three specific objectives of teaching English in secondary school have the purpose of helping students attain a standard which will permit them to make ready use of desired material in English, enabling them to communicate their needs satisfactorily in both spoken and written English:

1. To help students gain, in three years, a reasonable mastery of the four language skills, which are:
    a. listening with understanding to spoken English;
    b. speaking English correctly with the proper stress and intonation;

c. reading with understanding English texts that vary in difficulty from adapted and simplified material to the original in an abridged form;

d. writing a connected passage of up to a full page on a subject of a descriptive or discursive nature;

2. To stress the utilitarian point of view of learning a foreign language as a useful tool for cultural as well as social and economic communication;

3. To foster in students an interest in reading so that later on they may be prepared to read reference books, periodicals and pamphlets bearing on their future field of specialisation (Ministry of Education, 1979).

The above three objectives recognise the importance of developing all four language skills (speaking, listening, reading and writing) and encompass both functional and creative uses of language.

Nonetheless, they are still very broad and for teaching purposes need to be operationalised into more specific terms, in order for teachers to see and understand clearly what is required of them. Al-Sharaf (1992) has recommended that the objectives be more open to discussion and change by teachers at annual meetings which would help teachers to understand better what they should be trying to do, and what students are expected to achieve.

2.12.2 The English Language Curriculum

The English Language (EL) curriculum involves practice in listening, speaking, reading and writing throughout the whole course. It is not just a grammar and vocabulary course. Naturally, grammar and vocabulary are necessary to develop the main skills but teachers are advised not to spend too long on them (Ministry of Education, 1996).

Each year of the course concentrates on one or two skills, the idea being that all skills are brought to the highest possible standard by the end of the course. This is how it is done:

Secondary school year one emphasises listening and speaking. This is considered the appropriate focus for year one, because some of the students may leave school at the end of it. Their reading and writing are not expected to develop as rapidly as their oral skills in this stage.

In the second year, the emphasis is on reading, both intensive (short) and extensive (long) passages. There is a separate book for the longer passages. During this year, the students should become better at reading passages which they have never seen before. They will do most of this on their own so they will become less dependent on the teacher.

Year three emphasises writing. By the end of the third year, it is expected that successful students should have a good basis for any English writing required when they move on to the university or to work in the Kingdom (Ministry of Education, 1996).

The English language curriculum can be considered more up-to-date in its approach, than the Arabic curriculum, in that it is less heavily grammar-oriented and takes more account of oral skills. As with the Arabic curriculum, however, the English curriculum may be criticised for its tendency to treat language skills in isolation from each other. In particular, there would seem to be a danger that the student in the third year, for example, focusing intensively on writing, may lose the oral skills acquired in the first year, for lack of practice. Thus, it is questionable whether this approach is conducive to achieving the espoused aim of maximum development of all four language skills by the end of the secondary stage. In this respect, it may be doubted whether the approach to

teaching English is likely to achieve the objectives of giving students sufficient command of the language to meet their future study and career needs.

There are also problems with delivery of the curriculum, for example, lack of authentic pronunciation models. This is related to lack of teaching aids; in teaching a foreign language, the use of tape-recordings and films featuring native speakers of the target language can play an important role in familiarising students with correct pronunciation and intonation, but they are not available. Another problem in many schools is the lack of sufficient quantity and variety of materials for extension reading. Indeed, a problem which is encountered not only in English, but in all other courses, is that the reliance on centrally prepared, standard texts, makes little or no provision for individual differences in interests and abilities.

2.13 Summary

This chapter has attempted to provide the reader with some general understanding of the education system in of Saudi Arabia, with particular reference to the secondary stage and the teaching of Islamic Religious Science, Arabic Language and English Language.

It has been seen that although the current system of education in K.S.A. is relatively young, it has witnessed rapid quantitative development. The system has come under severe criticism for its rigid curriculum and over-emphasis on formal examination. Unfortunately, teacher training appears to perpetuate traditional methods and does not prepare newly qualified teachers to apply modern educational theory, practices and aids to their teaching.

Secondary education has, in the last two decades, been the subject of some experimentation, in an attempt to devise a system that caters for students' individual abilities and aptitudes while meeting the objectives indicated above. The outcome has been a modification of the traditional secondary school system which gives students the opportunity to specialise after grade 10, in one of the four areas of Islamic Religious Science and Arabic, Social and Administrative Science, Natural Science or Applied Science.

Although the programme of study varies in both number of subjects taken, and teaching time allocated to each, according to the specialism selected, some subjects are compulsory for all students. Among them are the subjects of interest to this research, namely, Islamic Religious Science, Arabic Language, and English Language. These, between them, account for almost 50% of teaching time at the secondary level, reflecting the importance these subjects in the eyes of educational planners, in equipping students for further study, for their careers, and for their lives in the modern

world. At the same time, many of the objectives officially laid down for the teaching of these subjects are very broad and abstract in nature, so they do not readily serve as a guide to the teaching of those subjects. Moreover, the curricula tend to be theoretical and inflexible, and are delivered predominantly through standard texts and lectures. Thus, there seems to be insufficient scope for taking into account the different interests, abilities and needs of students.

CHAPTER THREE

LITERATURE REVIEW

3.1. Introduction

Part One : Definitions, Origins and Explanations

3.2. Achievement Motivation

3.2.1. The Concept of Achievement Motivation

3.2.2. The Development of Achievement Motivation in Individuals

3.3. Concept of Attitude

3.4. Classroom Environment

3.4.1. Concept of Classroom Environment

3.4.2. Teaching Methods

3.4.3. Teaching Aids

3.5. Summary

Part Two: Empirical Studies of the Variables

3.6. Studies of Achievement Motivation

3.6.1. Achievement Motivation and Personal/Environmental Variables

3.6.2. Achievement Motivation and Attitude

3.6.3. Achievement Motivation and Classroom Environment

3.6.4. Achievement Motivation and Achievement

3.7. Studies of Attitude

3.7.1. Attitude and Classroom Environment

3.7.2. Attitude and Achievement

3.8. Studies of Classroom Environment

3.8.1. Approaches to Studying Classroom Environment

3.8.2. Classroom Environment and Achievement

3.9. Summary of part two

3.10 Conclusion

Chapter Three

Literature Review

3.1. Introduction

This chapter reviews literature relating to a number of variables - achievement motivation, attitude towards a given subject, and classroom environment - which may affect students' achievement, in order to provide the theoretical background to the empirical work described later. The chapter is structured in two parts: Part One (sections 3.2 - 3.4) presents definitions of the selected variables and discusses the origins and explanations of the concepts, while Part Two (sections 3.5 - 3.7) reviews studies which have examined the selected variables. The conclusion to the chapter highlights some key issues arising from the literature, which are of special significance for the present study.

Part One : Definitions, Origins and Explanations

This part of the chapter is divided into three sections. The first examines the concept of achievement motivation, looking first at definitions of the concept, and then at theories which have been put forward to explain the development of achievement motivation in individuals.

The second variable discussed, is attitude in relation to some object, the referent. In the case of this study, appropriate referents to consider would be learning, college, specific academic subjects such as Islamic Religious Science, and so on. However, at this point, the aim is not to discuss attitude towards any specific referent, but to define and explain the general concept of attitude.

In examining the third variable, classroom environment, the section focuses particularly on teaching methods and teaching aids. These are of particular interest in the present study, because they are variables over which course planners and teachers have immediate control, and because they have been the focus of the few previous studies which have considered classroom environment in the context of Islamic Religious Science lessons in Saudi Arabia.

3.2. Achievement Motivation

This section reviews briefly a number of definitions of achievement motivation, descriptions of how it is manifested and theories as to its source, whether innate or environmentally conditioned.

3.2.1. The Concept of Achievement Motivation

The concept of achievement motivation was first proposed and defined by McClelland et al. (1953) It has subsequently attracted wide attention, first as a concept which is useful in helping to explain and predict achievement, and later as a trait that may be consciously fostered by educationalists in order to enhance attainment of desired learning outcomes.

McClelland et at. (1953) defined achievement motivation as, "the need to do something well in competition with a standard of excellence". A later definition by McClelland (1961) elaborates on the meaning of "doing well", defining achievement motivation as:

> "The desire to do something better, faster more efficiently with less effort" (p 6).

Atkinson (1964) conceptualised achievement motivation as capacity to experience pride in accomplishment and saw it as a balance between, on the one hand, the desire for success and on the other, the fear of failure.

While McClelland's definition focuses on the desire to achieve, Atkinson (1964) considers the implications of this desire, in terms of its effect on behaviour.

Lindgren et al (1986) also focused on behaviour, identifying specific behaviours that reflect achievement motivation. They defined achievement motivation as:

> "A trait or pattern of behaviour that is characterised by performance of activities that promote individual accomplishment" (p 126).

They added that accomplishment is achieved through mastering, manipulating and organising the physical and social environment, overcoming obstacles and maintaining high standards of work, and competing through striving to surpass one's previous performance. Thus, the achievement motivated individual not only desires success but actively pursues it.

A similar view of achievement motivation as reflected in specific types of success-seeking behaviour is taken by Stinnett et al (1991), for whom achievement motivation is the individual's tendency to approach, accomplish and master various tasks and rapidly to attain a high standard.

Fontaine (1994) pointed out that achievement motivation is viewed as a predisposition to develop behaviours that enable the individual to achieve success in relatively wide fields where success and failure may be measured according to patterns of excellence. The motivation varies according to each particular area. Fontaine, thus, shares the view of Lindgren et al (1986) and Stinnett et al (1991) that achievement motivation is reflected in some active choice or modification of performance in order to obtain the desired result.

Timothy et al. (1994) indicated that achievement motivation may be defined as:

> "The need to master, manipulate, or organise ideas; to attain these goals as rapidly and as independently as possible; to overcome obstacles and to attain a high standard" (p 28).

Thus, Timothy and his colleagues view achievement motivation as a matter of need, though the needs they mention are very similar to the behavioural characteristics (mastery, manipulation, organisation) mentioned by Lindgren et al (1986) and Stinnett et

al (1991). However, Timothy et al, add another dimension: independence, reliance on one's own efforts.

Thorne (1995) defined achievement motivation as:

> "A tendency to strive towards performance excellence. This tendency is a function of complex interaction between intrinsic and extrinsic[1] motives that are aroused in achievement situations" (p 45).

Thorne, then, does not spell out the specific behaviours in which achievement motivation is manifested. He goes further, however, than the previous writers in viewing achievement motivation as resulting from the interaction of intrinsic and extrinsic motives. Such an interaction suggests that achievement motivation is not wholly inborn, and if it is partly influenced by external factors, then it can be perhaps externally manipulated.

All the above definitions of achievement motivation agree that it is related to "a need to do well". Stinnett et al, and Timothy et al, however, speak in terms of the need to "attain a high standard", suggesting some objective or external measure of performance. This is also implied in the definition of McClelland et al (1953). Lindgren et al, on the other hand, do not refer to any external measure - the individual is competing against his own previous performance.

The definitions reviewed above indicate that the individual's need for achievement is reflected in his or her tendency to adopt certain kinds of behaviours: mastering, manipulating and organising the physical environment (Lindgren et al, 1986) or ideas

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[1] An intrinsic motive is the enjoyment of achievement-related activities and of striving toward performance excellence. Extrinsic motivation is the desire for the tangible or intangible rewards that are often obtained as a consequence of successful performance (Spence, 1983).

(Timothy, 1994); overcoming obstacles (Lindgren et al, 1986); seeking rapid attainment (McClelland, 1953; Stinnett et al, 1991; Timothy, 1994); and independence (Timothy, 1994). Of particular interest to educationists, is the implication (Thorne, 1995) that achievement motivation may be influenced by manipulation of external factors.

3.2.2. The Development of Achievement Motivation in Individuals

The two linked questions that now arise are: "how do people acquire achievement motivation?" and, "why does it appear to differ from one individual to another?"

McClelland et al. (1953) believed that all motives are learned, developing out of repeated affective experiences connected with certain types of situation and behaviour.

Achievement motivation, they believed, was learned from the experience of "standards of excellence" being culturally imparted to individual, especially by the parents. They also explained how achievement motivation is determined by the individual's expectations of likelihood of success or failure. These expectations as to the probability of the outcome of performing a task produce affect in relation to that activity and hence, in turn, an achievement or avoidance oriented response. Uncertainty of expectations regarding the anticipated end result may cause the individual to continue to feel "challenged" by the task, a feeling which may positively reinforce pursuit of the goal. In contrast, once expectations about the outcome of an undertaken task are confirmed (whether favourably or unfavourably), the individual tends to become bored and stop trying, as the challenge no longer exists. In other words, people stop trying when tasks are too easy or too difficult.

Other writers, although taking up McClelland's idea of achievement motivation as being to do with some sense of success or failure perceived in relation to a measurable standard, have not always viewed it as something learned.

Atkinson (1964) indicated that individuals high in (n Ach)[2] select tasks that are moderately difficult, neither too difficult, nor too easy. Based on these observations he put forward a theory of achievement motivation in terms of two motives: a desire to achieve success and desire to avoid failure. These two motivational tendencies are competing forces. One is an approach motive involving anticipation of reward; the other, an avoidance motive involving anticipation of punishment. Individuals who are more oriented to achieve success and others whose primary concern is the need to avoid failure will be differentially motivated in situations which present varying levels of challenge. When the individual's motive to achieve success is stronger than the motive to avoid failure, the individual will welcome competition and is expected to perform well in a competitive situation. On the contrary, when the motive to avoid failure is stronger than the motive to achieve success, the individual will fear competition and is expected to perform badly.

For Atkinson, achievement motivation appears to be an intrinsic trait of the individual. Certainly, unlike Thorne (1995), he gives no consideration to environmental and cultural factors (such as parental upbringing) which may affect the individual's need for achievement.

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[2] Note that "n Ach" or "n Achievement" is used as an abbreviation for both "the need for achievement" and "achievement motivation". The two terms are used interchangeably in most theoretical literature. (Matthew & Kunhiknishnan 1995; Salili 1996).

Maehr (1978) in his discussion of achievement motivation stresses the importance of three conditioning principles: standard of excellence, the individual's performance and challenge. He indicates these defining principles as follows:

> "Three delimiting principles are operative in restricting the range of observations to achievement. First, the persistence, the directional change, the performance variation, or some combination must occur in a task for which there is a standard of excellence; in other words, the activity must be such that it can be evaluated in terms of success or failure. A second defining condition is that the outcome on the task is potentially attributable to the individual's performance. This does not necessarily mean that achievement is only an individualistic activity. The point, however, is that achievement is something to which the person makes a contribution. Something is done by the individual; it is not done to the individual. Third, some level of challenge and, therewith a certain related sense of uncertainty of outcome must be involved" (p 211).

Maehr's view of achievement motivation adds a new dimension in that he relates it directly to the individual's performance and achievement. Although, like the previous writers, he acknowledges the existence of some measurable standard of success or failure, he places more emphasis on the individual's *active* contribution to his achievement by the persistence of his effort or the variation of his performance. There is no specific mention of whether achievement motivation is intrinsic, or, if not, how it is acquired, but like McClelland, Maehr relates it to a sense of challenge and uncertainty.

According to Dweck & Elliot (1983) and Montero & Tapia (1992), achievement motivation has three components: first, desire for a positive judgement of competence (for example, from parents or teachers); second, desire to increase personal competence, and third, desire to avoid negative failure. The first and second components are not differentiated in Atkinson's theory of achievement motivation, which identifies only the hope of success and the fear of failure. In their focus on the individual's desire to

increase personal competence, Dweck & Elliot, and Montero & Tapia, have much in common with Maehr.

Stipek (1993), commenting that achievement motivation theorists try to explain the direction and intensity of an individual's behaviour in situations in which performance can be evaluated according to some standard, pointed out that the standard may be personal (ie, achieving some predetermined goal) or it may be chosen by another individual, such as a teacher. Opportunities for externally recognised achievement occur in school, at home, on the sports field, on the stage, and in many other places.

Okolo (1995), writing from a classroom situation perspective, suggests that achievement motivation is a product of the interaction between student characteristics and instructional practices. Student characteristics that affect achievement motivation include three components: first, students' ability to perform a task, which includes their skills, background knowledge and prior experiences; second, the degree to which students value an activity and perceive it as relevant, interesting and important; and third, students' beliefs about learning and about themselves as learners.

Okolo's view is interesting, because it is the only one of those quoted which specifically views achievement motivation in the classroom context and also because like that of Thorne (1995), cited in the previous section, it will be shown to be particularly relevant to the empirical study described later. Okolo's view is more comprehensive than that of McClelland, Atkinson and the other writers, because Okolo's concept of "student characteristics" embraces both innate traits and the effect of prior experiences (which include parental upbringing). In this respect, Okolo's view recalls that of Thorne (1995). However, what is especially significant is the claim that achievement motivation comes from the interaction between student characteristics and instructional practices. Student

achievement motivation is, therefore, it is suggested, something the teacher has power to influence.

There is general agreement among the writers reviewed here, that achievement motivation is an affective response of the individual towards (or away from) the prospect of success or failure, viewed in relation to some perceived standard. For some, such as McClelland (1953) this is a learned tendency, which has its roots in parental conditioning. Others, such as Atkinson (1964), appear to see it more as an intrinsic trait of the individual. Either way, given the relationship, which Maehr (1978) proposes between achievement motivation and individual performance, the concept of achievement motivation is of interest to educationalists as it may help to explain differences in effort between individual students. For Okolo (1995), and Thorne (1995) however, its importance goes beyond this. They view achievement motivation as a function not only of both innate and acquired qualities of the student, but also external factors, Okolo, indeed, specifies one such factor, the instructional process. If this is, indeed, an influence on achievement motivation, teachers may be able to manipulate that process so as to enhance students' achievement motivation (for example by encouraging the desire for success and helping students to overcome the fear of failure), and so encourage them to develop achievement-oriented behaviour.

3.3. Concept of Attitude

A number of different definitions of attitude have been put forward over the years. Allport (1954) defined attitude as,

> "A mental and neural state of readiness organised through experience, exerting a directive or dynamic influence upon the individual's response to all objects and situations with which it is related" (p 45).

Thus, for Allport, attitude is primarily a cognitive characteristic, which is permanently present, but is manifested by the individual's response to relevant stimuli. Fishbein & Azjen (1975) take a similar view, suggesting that attitude can be described as:

> "A learned predisposition to respond in a consistently favourable or unfavourable manner with respect to a given object" (p 6).

Once again, attitude is presented as a cognitive feature. Fishbein & Azjen specifically comment on the consistency of response induced by attitude, and the fact that it is directional; it may be positive or negative. They also, like Allport, indicate that an attitude object is involved.

According to Philip et al. (1977), attitude can be regarded as either mental readiness or an implicit predisposition that exerts some general and consistent influence on a fairly large class of evaluative responses. Thus, their definition contains basically the same elements, differently expressed, as those of the preceding writers.

Gardner et al. (1985) defined attitude as:

> "An evaluative reaction to some referent or attitude object, inferred on the basis of the individual's beliefs or opinions about the referent" (p 9).

Thus, Gardner et al. (1985) also sees attitude as a matter of cognition. However, unlike Allport (1954) and Fishbein (1975), he makes no claim as to the consistency of attitude.

Other writers view attitude in affective, rather than cognitive terms. For example, Edwards (1987) sought to clarify the concept of attitude by posing a simple question: "When you ask someone about his attitude toward something, say his subjects in school, what is it that you are interested in finding out? If you are primarily interested in how he feels about his subjects and, in particular, whether he likes or dislikes his subjects, then you are asking about the concept of attitude". A similar approach to that of Edwards is taken by Showers & Shrigley (1995), according to whom attitude is defined as a positive or negative feeling toward an attitude object. Another definition focusing on affect is that of Freedman (1997), who indicated that attitude represents the emotional orientation of an individual toward whatever referent or attitude object is being considered.

Another dimension to the understanding of attitude is provided by Thomas (1991), who not only indicates that the term attitude focuses on a person's predisposition to respond in a certain way towards the attitude object, but also gives specific examples of types of attitude, including confidence, liking or disliking, attributions for success or failure and beliefs about self (for example, "I can't do this subject"). Thus, Thomas combines the cognitive and affective views of attitude. In his use of the term predisposition, he appears to share Allport's view of attitude as a constantly present, though sometimes dormant characteristic.

The writers, whose views are represented above, concentrate on attitude as either a cognitive or an affective characteristic. Two (both of whom view it as a cognitive trait) also imply that it is stable, a claim not specifically made by the other writers.

Attitude, for all these writers is a quality that can only be defined, inferred or manifested in relation to something else, the referent. The referent need not be a physical object, but could be a situation or idea. Several of the definitions suggest, explicitly or implicitly, that attitude has a directional quality. In other words, it may be positive or negative. Other writers have built on the cognitive and affective views of attitude, discussed above, to present a more complex theoretical model which incorporates both these dimensions, together with a more specific behavioural component through which the attitude is manifested. For example, Philip et al (1977) argued that attitude has three components: affect, cognition and behaviour. The affective component consists of a person's evaluation of liking of, or emotional response to some object or person. The cognitive component has been conceptualised as a person's beliefs about, or factual knowledge of, the object or person. The behavioural component involves the person's overt behaviour directed toward the object or person.

Thus, whereas the writers discussed earlier described attitude in either cognitive or affective terms, for Philip et al (1977) these are two dimensions of the same quality. Philip's definition is also distinctive in the emphasis it places on the behavioural component. Thus, attitude is not only a matter of knowledge, beliefs or feelings, it is manifested in the individual's outward behaviour in relation to the referent.

Oppenheim (1994) takes a similar view, expanding on it as follows:

> "A state of readiness, a tendency to act or react in a certain manner when confronted with certain stimuli. Thus, the individual's attitudes are present but dormant most of the time; they become expressed in speech or other behaviour only when the object of the attitude is perceived . . . Attitudes are reinforced by beliefs (the cognitive component) and often attract strong feelings (the emotional component) that will lead to particular forms of behaviour (the action tendency component)" (p 174-175).

However, Tesser & Schaffer (1990) strongly challenge the traditional definitions of attitudes in terms of affect, cognition and behaviour, proposing that attitudes should be considered as if they were structured in memory. They argue that attitudes are evaluations based on beliefs, feelings and/or past behaviour. They argue that:

> "The primary purpose of holding an attitude is object appraisal, i.e. making evaluative judgements about an attitude object that will have clear behavioural implications" (p 497).

They seem to support the existence of a reciprocal relationship between attitudes and behaviour, by which attitudes influence behaviour and behaviour influences attitudes.

Wilson (1991) asserts that the distinctions between evaluation and affect and between direction and intensity have important consequences for the measurement of attitudes which has customarily involved self-report or the observation of behaviour. This, therefore, suggests that attitudes cannot be observed directly. Rather they have in the past been inferred from what a person says or does. Hence, attitude measurement has traditionally relied on either responses made to a set of statements or a series of adjectives or behaviours exhibited in a specific situation or a variety of situations.

In summary, most of the definitions of attitude presented above have focused on the dimensions of cognition (beliefs and knowledge about the referent), affect (feelings, such as liking or disliking the referent), and behaviour (the ways in which the individual's

attitude to the referent is outwardly manifested). Whereas writers such as Allport (1954) and Fishbein and Azjen (1975) have focused more on the cognitive dimension, and others, such as Gardner et al (1985), Showers and Shrigley (1995) and Freedman (1997) have emphasised the affective, Philip (1977) and Oppenheim (1994) have created a more comprehensive framework embracing all three dimensions. Oppenheim's account seems particularly comprehensive in incorporating the main components from earlier definitions: the dormant tendency, the idea that attitude is felt and expressed in relation to a stimulus (contact with the referent), the roles played by beliefs and feelings, and the effect on behaviour. These elements appear to have characterised most thinking on attitude for the past 20 years or more. Tesser & Schaffer (1990) have presented an alternative framework, though what they see as an evaluative response, still involves beliefs, feelings and behaviour.

Finally, Wilson (1991) makes explicit what is implied by a number of the other writers: that attitude cannot be observed directly, but is inferred from individuals' saying and actions.

3.4. Classroom Environment

Another variable which has been suggested as having a possible influence on achievement and attitude towards academic subjects (and learning more generally) is classroom environment. This section defines the concept of classroom environment, before examining in more detail two elements of it: teaching methods and teaching aids.

3.4.1. Concept of Classroom Environment

Walberg (1976) defines classroom environment as encompassing students' and teachers' perceptions of all aspects of the learning environment that influence learning. These include interpersonal relationships amongst pupils, pupil-teacher relationships, disposition and facilities of the classroom, pupils' liking for the subject and method of teaching.

Other writers, while recognising the same blend of physical, social and psychological elements, concentrate on students' perception of these, rather than (as Walberg does) including teachers' perceptions also.

Moore (1988) stated that classroom environment is the label used to describe the complex psychosocial climate of the classroom as perceived by students. Considerable research has taken place on the effect of classroom environment on cognitive and affective outcomes of science and education.

Similarly to Moore, Myers & Fouts. focus on classroom environment as seen from the students' perspective. According to Myers & Fouts. (1992), the classroom environment is defined as:

> "The unique interactive combination of teacher behaviours, curriculum expectations and student-to-student interactions

> which develops in the classroom setting. The measure of classroom environment is the individual student's perception of these interactions" (p 930).

This definition mentions similar elements to those identified by Walberg, but unlike Walberg, Myers makes no specific claim that these elements have a bearing on learning. In contrast, Pierce (1994) defined the classroom environment as the physical, emotional and aesthetic characteristics of the classroom that tend to enhance attitudes toward learning. Thus, Pierce's definition has much in common with Walberg's in that both attempt to indicate the importance of classroom environment for learning. Whereas Walberg relates the influence of classroom environment directly to learning, Pierce, however, relates it to attitude toward learning (though this, in itself, may impact on learning, as the second part of this chapter will indicate).

Creemers (1994) stated that classroom environment is the nucleus where other influences on the learning of students and their educational results are found. These include classmates, peer groups and also teachers and textbooks.

In summary, there is broad agreement among the definitions given above, that classroom environment encompasses a complex array of physical, social and psychological elements and several examples of the sorts of factors involved have been given. There is also a suggestion that classroom environment impacts on learning, either directly (as Walberg suggests) or indirectly, via attitude (as Pierce suggests). Of the many factors that may be considered to come under the heading of classroom environment, two are of particular interest to this study, in that they are factors over which the teacher has control. They are teaching methods and teaching aids, which are discussed in some detail below.

3.4.2. Teaching Methods

Shafritz et al (1988) defined teaching methods as:

> "An approach to instruction that has been systematically described and that can be applicable to a number of subject areas and teachers. Examples include the lecture method, the tutorial method, and more recently, such technological approaches as computer-assisted and learning telecommunication" (p 469).

This comment is somewhat limited, confining itself to the definition of methods in terms of systematic description and generalised applicability. The authors give examples, but do not analyse the nature or value of different methods.

Joyce & Weil (1980) indicated that teaching method is a procedure of guiding and circling the experiences of students so that they learn. It can be used to shape curricula, to design instructional materials, and to guide instruction in the classroom and other settings; this may include a set of notes by the teachers in preparation for the lessons.

There are two basic approaches to teaching, viz, the teacher-centred approach and the student-centred approach. Teaching is said to be teacher-centred when the teacher employs the lecture or the telling method. On the other hand, teaching is regarded as student-centred when such methods as the discussion method, Socratic Question method, discovery method or programmed learning are used. The advantages and disadvantages of these methods are reviewed briefly below.

Lecture Method

The lecture method is a process of delivering verbally a body of knowledge according to a preplanned scheme (Badri, 1979). It is a way of delivering maximum information in the minimum time. The teacher does most of the talking. He/she presents ideas and concepts, develops and evaluates them, and summarises the important points without allowing the students' participation. The lecture method is thus characterised by one way communication.

Lecturing as a method of teaching has frequently been attacked by educational psychologists and students. Critics believe that it results in passive methods of learning which, as some have seen, tend to be less effective than those which fully engage the learner. They also maintain that students have no opportunity to ask questions, that they must all receive the same content at the same pace, that they are exposed to only one teacher's interpretation of subject matter, which will inevitably be biased, and that, anyway, few lectures rise above dullness (Beard & Hartley, 1984).

In his book What's the Use of Lectures? Bligh (1971) presents fairly extensive evidence which shows that lecturing as we know it is effective mainly for imparting information. He found little evidence that students learned to think as a result of listening to lectures.

Nevertheless, in a number of inquiries (eg Bliss & Ogborn, 1977; Beard & Senior, 1980) this pessimistic assessment of lecturing as a teaching method proves not to be general among students, although they do fairly often comment on poor lecturing technique. Students praise lectures which are clear and orderly, with synopses in which basic principles are emphasised. One might suppose from students' comments on lecturing that clarity in presentation was not the greatest but the only virtue that they looked for.

Perhaps this is because lack of clarity is so disastrous. However, if one observes a large number of lecturers it is clear that a variety of styles, stressing different skills in presentation and organisation of subject matter, is possible.

Badri (1979), referred to earlier, suggests a number of ways in which lectures can be made interesting and effective:

- injecting periods of practical demonstration and questions and discussion into the body of the lecture,
- devising a method of emphasising important points,
- being as humourous as possible,
- constant checking on students' understanding by consciously observing students' reactions during the course of the lecture,
- adapting language to the level of students' understanding.

However, he advises against using the lecture method at the secondary school level. Similarly, Olaitan & Agusibo (1981) suggest that this method is more appropriate to mature (eg college and university) students.

Discussion Method

Discussion as a method of teaching relates to classroom learning activities involving active and co-operative consideration of a problem or topic under study (Al Afendi & Baloch, 1980). The discussion method encourages increased involvement and active participation by members of the class. The teacher raises problems, initiates interaction and guides the students to pursue the discussion towards the attainment of the goal. The learners examine the topic, react to it, argue with one another, suggest solutions, evaluate alternatives and draw conclusions.

Evidence from comparative studies shows that discussion is often more effective than lectures in promoting thinking (Bligh et al, 1971).

With student-led discussion, achievement of a wider range of objectives becomes possible than in most teacher-led groups. Students acquire information in an active way which enables them to assimilate it more readily into their store of knowledge; they are also able to develop skills in explanation and questioning, in commenting on and criticising differing views expressed by their peers and in summarising contributions to discussion.

Jean Ruddock (1978), in Learning Through Small Group Discussion, discusses some of the problems which arise in discussion groups due to teachers' inability to relinquish their roles as an authority, or the unwillingness of students to allow them to do so. Bligh et al (1971) stress the need to promote confidence at this stage and to foster curiosity by the use of problems which apply the principles of a subject in a practical way, or by talks involving the acquisition of facts and their interpretation.

Socratic Question Method

This is a method of learning by questioning. Questioning is one of the most readily available techniques in the hands of the teachers. Four general uses of questions are:

- drilling and practice,
- guidance and learning,
- stimulating or motivating,
- evaluating.

Teachers, in framing their questions, should make them thought provoking.

According to Hamdan (1977) questioning is an effective way of introducing an activity, and giving direction and purpose to the learning. Olmo, (1970) regards it as a vital part of instruction.

Discovery Method

Discovery occurs when individuals are involved in using their mental processes to discover some concept or principle (Lemu, 1980). Discovery learning is synonymous with inductive learning. The method leads first to an understanding of concepts and after this to a discovery of generalisations, principles and even laws related to those concepts (Nassef, 1983).

The objectives of the discovery method, as stated by Beard & Hartley (1984), are the acquisition of practical skills; the development of observational skills; the acquisition of inquiry skills; a critical approach to experimentation and the development of problem-solving strategies.

Programmed Learning

One model of instruction familiar since the late 1950s and early 1960s is that introduced by Skinner through his programmed texts. Programmed learning is a rational method which underlies many systematic methods of individualised learning. The evidence from experimental studies suggests that many programmes are at least as effective as expert teachers and that often it takes as little as two-thirds of the time for average students to cover the same ground (Beard & Hartley, 1984). There is some indication, however, that the best approach is to use a combination of the expert teacher and the programme. Hartley (1984), for instance, reported that of 12 studies known to him which had

compared teacher and programme with the teacher alone, or the programme alone, the teacher and programme working together came out best on 11 occasions.

Hartley (1974) reviewed much of the research that had been carried out into the principles of learning advocated by Skinner and used in linear programmes. He concluded that there was some support for most of them in certain situations, but that the picture was more complex than that initially suggested by Skinner. Hartley pointed to certain successful variations on the principles: he suggested that students could work in pairs, or small groups - they do not always have to work alone; he indicated that the amount of information to be presented per frame, and the need for an active response, depended on the difficulty of the subject matter, the learner's prior knowledge, ability and confidence, the need for learning technical vocabulary, and so on.

Many studies have shown that students respond favourably to good programmes. For example, an inquiry into students' reactions to programmed learning in science showed that most students liked them.

A comparison of the teacher-centred (lecture) and student-centred (discussion, Socratic method discovery learning or programmed learning) approaches reveals that the student-centred approach gives more opportunity for learners' participation, as they are able to observe, think, rationalise, deduce and conclude in the learning process. The teacher's role in the process is that of a guide, giving directions to students, synthesising information given by students and thus stimulating classroom discussions. Rather than the one way communication channel, the teacher makes multiway communication channels.

Student centred, participative learning is generally preferred by educationalists. For example; Froebel asserted that, "to have one fourth of the answer by his own effort is of more value and importance to the child than it is to half-hear and half-understand it in the words of another" (Brown et al, 1982).

However, not all writers believe that the student-centred approach is always preferable. A combination of approaches is often advocated. For example; Abusaleh (1989) stressed that teaching should be both learner-centred and teacher-centred. The teacher should be a facilitator and a resource, one among many. The teacher and learner should be in partnership with the possibility of formal contracts being made. Learning methods should be largely self-directed and draw heavily on the learner's experience; and the curriculum should be based on issues and problems reflecting academic subjects.

If possible, before a programme begins it is important for the teacher to set the aims and objectives of the course. The aims of the course will be the general intentions (eg the imparting of knowledge, ideas and information or skills; to encourage a change in behaviour, improve skills, or modify attitudes) while the objectives are the various stages leading to the course aims (MacKenzie 1976). The teacher will have to know before each lesson what he will want the students to be able to achieve by the end of the session. Such objectives should be easy to assess.

Gage & Berliner (1992), stated that there are many important factors to deal with in discussing methods of learning such as the student's age, the objective of the lessons, motivational characteristics, and background of the previous learning and achievement. To select any method, these elements should be taken into account.

Of all the educationally approved methods of teaching, no one method can be labelled as *the best method.* This is because several variables determine appropriateness of a teaching method, namely: the type of student; the subject matter; the conditions under which teaching is to take place; the envisaged outcome of teaching. In view of this, educationalists talk of *the most appropriate method* rather than *the best method.* A method would be considered appropriate if it is able to realise the envisaged outcome of teaching.

The main message that emerges from all the literature reviewed above is the desirability of the teacher being able to make effective use of a variety of teaching methods, and to make appropriate choice among these according to variables in the learning situation.

3.4.3. Teaching Aids

Dale et al. (1952), defined teaching aids as,

> "A wide range of instructional materials and devices that are less symbolic than printed words" (p 84).

In clarifying what is meant by teaching aids, it may be convenient to adopt Ralph Cable's classification of instructional materials into Visual, Aural and Audio-visual (Cable, 1979). Those in the first category appeal predominantly to the sight, those in the second category appeal predominantly to the hearing, while those in the third category make use more or less equally of both senses.

1. <u>Visual Materials</u>

   A. Three dimensional materials

      (i) Objects, (ii) Models, (iii) Specimens.

B. Printed materials

(i) Textbooks, (ii) Workbook, (iii) Programmed instructional materials.

C. Boards

(i) Chalkboards, (ii) Bulletin boards, (iii) Flannel or felt boards.

D. Still Pictures

(i) Non-projected (photographs, illustrations), (ii) Projected (slides, filmstrips, overhead projection and opaque projections).

E. Graphics

(I) Charts, (ii) Graphs, (iii) Maps, (iv) Globes, (v) Posters, (vi) Diagrams.

2. Aural Materials

A. Radio B. Record Players C. Tape Recorders

3. Audio-visual Materials

A. Motion Pictures B. Television

Teaching Aids have become a common feature in academic subjects. It is sometimes claimed that they create an atmosphere and an authentic environment (Mitchell, 1993). There is some justification for this. Ashraf (1986) went on to argue that a video of an actual situation can be very effective, because such a lively video can arouse imaginative sympathy and can also transport students into the heart of a different culture. This suggests teaching aids can be effective if they are meaningfully arranged and are accompanied by a script that is competent and creative. Filmstrips, for example, do the same job that the slides do. Similarly, charts, models and tape-recorders have a direct impact and make it easy for students to remember facts.

All forms of teaching aids, however, convey information which is the primary source of knowledge. But they should not be considered as an end in themselves. Rather, they should be strictly regarded as aids and not substitutes for books or teaching or personal contact.

In their own analysis of teaching aids, Atkinson & Feather (1966) emphasise the need to use aids in all subjects, arguing that the practical applications in many of the aids used may well provide a starting point to stimulate the inquiring mind .

Use of Teaching Aids

The importance of teaching aids has been asserted by a number of writers. According to Rowntree (1982), the use of teaching aids contributes to engaging student motivation, facilitating recall, and providing new learning stimuli .

According to Bloom (1956), the use of instructional materials in the teaching-learning process bestows some educational benefits on both the teacher and the student (Bloom, 1956). Some of these are discussed below:

1. Students learn faster and retain the knowledge longer if the material to be learnt appeals to more than one of the senses. People tend to forget what they are told but are more likely to remember the experience they gain through observation, examination and manipulation of the teaching tools. Research findings indicate that learners remember only 10% of what they read, about 20% of what they hear and about 50% of what they hear and see (Brown et al. ,1982).
2. The use of instructional aids encourages active learning. The amount of learning that takes place in the teaching-learning process is, according to Percival & Ellington (1986), proportional to the amount of student participation.

3. According to Green (1971), the use of instructional materials saves the teachers' time and conserves energy by minimising over-verbalisation, which he defines as the excessive use of words to communicate ideas, feelings, concepts and knowledge. This is a weakness which he claims is characteristic of the traditional teacher.

4. The effective use of audio-visual materials enriches learning by adding variety to it (Obanya, 1983). This is to suggest that the variety enlivens the lesson, thus getting rid of boredom. Depth and breadth of coverage provided by the instructional materials make the teaching-learning process pleasant and meaningful (Obanya, 1983).

5. The use of visual materials bridges time and space, helping to bring into the classroom important first-hand experiences (Cable, 1972).

However, the use of teaching aids, per se, does not guarantee that those benefits will be attained. For effective teaching and learning, instructional materials must be carefully chosen and used at the appropriate times (Cable, 1972). Poor performance and improper use of the materials may hamper the realisation of the stated objectives (Bloom, 1956).

There are a number of reasons why, despite the reported advantages of teaching aids, teachers do not always make optimal use of them. Firstly, teachers are unlikely to try to use them if equipment is not easily available (Debbert, 1976; Moor & Hunt, 1980). The same point was made by Cecilia (1986) who commented on the need for appropriate classroom facilities to promote learning.

A second factor may be teacher workload. This was one of the factors in non-use of teaching aids, cited by Al-Sharhan (1989), on the basis of his study findings in Saudi

Arabian secondary schools. Even in schools where equipment was available and classroom facilities permitted, many teachers reported workload as a factor discouraging them from producing material and using teaching aids. It is worth drawing attention to a point made in a report by Umm Al-Qura University (1986) on the poor response rate by local schools to its invitation to use its then new language laboratories. The report comments that the teaching load of teachers in schools was so great that educators had little time to use a creative approach. Most teachers are required to do 24 hours contact a week, apart from other school activities. Most of them, therefore, have no time to investigate teaching aids or other annovations (Umm Al-Qura University, 1986).

Thirdly, a number of studies report the importance of teacher training in the use of teaching aids, as a factor in their readiness to use them in the classroom. Lack of training in their use is widely reported as one of the principal factors in non-use (Hurst, 1983; Bettex, 1984; Schriffman, 1986; Al-Hakami 1992). This was one highlighted in the previous chapter (section 2.8).

3.5 Summary

The review of literature presented in this section has shown that classroom environment is a term used to encompass a complex array of interacting physical, social and psychological aspects of the learning setting. For the purposes of this study, particular focus has been placed on teaching methods and teaching aids.

Regarding teaching methods, it was shown that these fall broadly into two categories: teacher-centred and student-centred. While the teacher-centred approach (exemplified by the lecture method) can be useful in conveying large quantities of information in a limited time, educationalists increasingly emphasise the importance of more student-centred approaches (i.e. those with greater student participation) in encouraging an active, inquiring mind.

However, no single teaching method is "best" or appropriate in all situations. Teachers need to select methods carefully, on the basis of, for example, students' age and ability, the subject matter, and learning objectives.

The use of teaching aids, whether visual, aural or audio-visual, is encouraged by educationalists, for the benefits said to ensue for both teachers and students. They add variety and interest to lessons, encourage students' participation, engaging them in active learning, aid recall, save time, and make available to students, experiences which, for reasons of time, distance and practicality, they could not otherwise have. However, there are a number of barriers which may prevent teachers from making use of such aids. Factors such as lack of equipment, teacher workload and lack of training in the use of teaching aids, may prevent teachers and students from benefiting from the potential of such aids to enrich the teaching-learning process.

Part Two: Empirical Studies of the Variables

The variables discussed in the first part of this chapter have been the subject of a variety of studies, which have examined their relationships with each other, with academic achievement (such as exam grades and test scores) and with other variables such as gender. The findings of such studies may have important implications for the current research and for the planning and delivery of educational programmes generally.

3.6. Studies of Achievement Motivation

This section begins with a study which explores the possible effect of personal and environmental factors on achievement motivation. It then goes on to consider other studies which have investigated the relationships between achievement motivation and attitude, and between achievement motivation and classroom environment. Finally, studies of the relationship between achievement motivation (with or without other variables) and academic achievement are reviewed.

3.6.1. Achievement Motivation and Personal and Environmental Variables

A number of factors have been suggested as influencing achievement motivation, either singly or in combination. Some authors have suggested that achievement motivation changes naturally with age. For example, Veroff et al (1984), in a survey of American men and women, reported a decline in both achievement and affiliation motivation[3] for women and an increase in power motivation[4] for men during adulthood. They suggested

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[3] The desire for belonging, connection with others.

[4] The desire for control, domination, authority.

that changes in achievement motivation with age may simply reflect a change in circumstances and meaning of achievement as people grow older.

Similarly, Maehr & Braskamp (1986) found that when life circumstances change, so does the nature of achievement behaviour. Some characteristics that are typically attributed to achievement motivation in younger individuals may not apply to older people. One such characteristic, they suggest, is taking a moderate amount of risk which is characteristic of younger people, but less so of older people, who tend to be more cautious.

Fontaine (1994) explored the relationship between achievement motivation at school and child-rearing practices, through a questionnaire survey of 288 mothers of sixth graders in Portugal. Child-rearing practices were investigated through a questionnaire designed for the purpose by Fontaine. The questionnaire consisted of six scales: family structuring, authoritarianism, autonomy, acceptance, parental expectation and locus of control. Cronbach's alpha gave an internal consistency value of .67 for family structuring and values ranging from .83 to .87 for the other five scales. Achievement motivation at school was indirectly observed by a questionnaire drawn up by Hermans (1980). This contained four scales with alpha values from .80 to .86; the achievement motivation scale was the only one analysed in Fontaine's study. No meaningful association was found between achievement motivation and child acceptance, authoritarianism or success expectation, but there were significant relationships with family structuring ($p<.001$) and autonomy ($p=.030$). Students from more rigidly structured families and those who had less autonomy, had higher achievement motivation.

Maqsud & Coleman (1993) investigated the possibility that young people who live away from their parents for substantial periods may have a lower level of achievement

motivation than those living at home. Their study was carried out in Botswana, where it is not uncommon for children to be sent to high school away from home. The researchers investigated 180 high school students aged 16-22, 60 in each of three groups, those living with parents (LWP); those living with grandparents or other close relatives (LWGP) and those on their own, without parents or close relatives (LWOP). Achievement motivation was measured using the Smith (1973) Quick Measure of Achievement Motivation. The mean achievement motivation scores for the LWP groups (boys, M= 7.86, SD=1.17; girls, M= 7.00, SD= 0.95) were significantly higher than those for the LWGP groups (boys, $M = 5.97$, SD = 1.59; girls; $M = 5.87$, SD = 1.52), t (62) = 6.17, p< .001 and t (54) = 3.40, p< .01, respectively. These in turn were significantly higher than those for the LWOP groups (boys, $M = 2.08$, SD = 1.08; girls, $M = 2.04$, SD = 0.92), t (61) = 11.17, p< .001, and t (55) = 11.71, p< .001, respectively. The researchers concluded that adolescent – parent interaction in a family situation is a significant factor in the development of achievement motivation.

Salili's (1996) study suggested that achievement motivation is influenced by culture, but also that within a culture, it is affected by age and gender. He investigated differences in achievement motivation among male and female British and Chinese high school students, in addition to exploring age and sex differences in achievement motivation among the Chinese. The sample was 764 students (male = 361 and female = 403) of whom 175 were British (79 male and 96 female) and 589 were Chinese (282 male and 307 female). The Chinese students were placed into three groups based on their educational stage and age level: high school students (age = 13 -18 N = 263), university students (age = 19 - 25 N = 182), and older adult students (age = 25 - 55 N = 144). The Thematic Apperception Test (TAT) devised by McClelland et al (1953) was used to

measure nAch (achievement motivation). Salili's findings revealed that Chinese high school students had a significantly higher level of achievement motivation (M = 13.9 and 14.1 for males and females respectively) than their British counterparts (M = 7.9 and 10.4 for males and females respectively). There were significant age related differences among the Chinese. High school students (M = 13.9 and 14.1) had significantly higher achievement motivation at $p < 0.05$ than university students (M = 11.1 and 11.3) and older adults (M = 11.4 and 11.6). Finally, females of both cultures had higher scores than males, although this difference was significant only for British students. Salili attributed the difference in achievement motivation between Chinese and British students to the affiliative orientation of the former, compared with the individualistic orientation of the latter.

In summary, the literature contains results of empirical studies that show achievement motivation may be affected by a number of variables. It may differ between cultures. It may also be influenced by family structure, child – rearing and interaction with parents and relatives. Age and gender both appear to have a bearing on achievement motivation; there is some evidence that it declines with age from a peak at about high school and that girls are more motivated than boys (though this may depend on culture).

3.6.2. Achievement Motivation and Attitude

Cannon & Simpson (1985) investigated relationships among attitude, achievement motivation and achievement of seventh-grade science students in four junior high schools, one from each of four diverse geographic quadrants in N. Carolina, US. Their sample included 821 students in 38 classes, taught by 11 different teachers. Attitude was measured using the Simpson & Troost (1982) Attitude Questionnaire, which is composed of 14 subscales and had an overall reliability estimate (Kuder-Richardson 20)

of 0.95; the achievement motivation subscale had a reliability estimate of 0.72. Achievement was measured using a test developed by members of the cooperating school system (reliability estimated, 0.91). The finding revealed similar patterns of decline in both achievement motivation and attitude, during the course of the year, for both males and females, regardless of ability group.

Talton & Simpson (1986) explored the relationship between students' achievement motivation and their attitude toward science, as part of a large longitudinal, multi dimensional study among adolescent science students (grades 6 – 10) in N. Carolina, US. Stratified random sampling was used to select 12 of the 55 schools in the system, each of four quadrants being represented by one elementary school (grades k-6), one junior high school (grades 7-9) and one high school (grades 10-12). The instrument used was developed by Simpson & Troost (1982) to measure the attitude of adolescents towards science. Achievement motivation was found usually to be a significant predictor of attitude toward science (R^2= .42; $p< 0.05$).

Also in the US, Atwater et al. (1995) examined the relationship between achievement motivation and attitude toward science in a south-eastern urban school system where African-American students represented 91% of the student population. The sample of this study consisted of 1,413 students who identified themselves as sixth, seventh or eighth graders. Students in this study also were given the Simpson & Troost (1982) Instrument. Both internal and external variables are encompassed in this instrument. The subscales in this instrument related to internal variables, measure the following constructs: general self-concept, science self-concept, science anxiety, attitude toward science and achievement motivation. Subscales related to external variables are attitude

toward science curriculum, attitude toward science class climate, science class physical environment and attitude toward school.

Reliabilities of the various_subscales, using Cronbach's Alpha, ranged for grade 6 from 0.43 (for attitude towards family) to 0.81 (for achievement motivation); in grade 7, they ranged from 0.35 (general self concept) to 0.73 (achievement motivation); and in grade 8, they ranged from 0.50 (general self concept, attitude towards science class climate) to 0.77 (achievement motivation). In analysing the data, attitude towards science was used as a blocking variable; students were divided into three groups, called 'high'; 'middle' and 'low' based on their scores on this subscale. The groups were further divided by grade level and gender for data analysis purposes. A mean score of 4.0 or greater (on a scale of 1-5)was regarded as an indication of a favourable attitude toward science, whereas a mean score of 2.0 or less was taken as representing an unfavourable attitude toward science. Neutral attitudes were represented by scores less than 4.0 and greater than 2.0.

The findings in this study, Atwater suggested, are unusual in that only 25% of this sample (1,413) had a very positive attitude toward science. Both the high and low groups of sixth graders were highly motivated to achieve in science. However, the pattern was different in the other two grades. The seventh and eighth graders with a low attitude toward science were less motivated to achieve than were the students with higher attitudes toward science.

From these studies, it appears that there may be a relationship between achievement motivation and attitude, though it is difficult to draw firm conclusions. Atwater's findings show different relationships at different grade levels, while the Talton and Simpson study found a clear correlation between the two variables. Cannon and Simpson

provide no clear statistical evidence of a correlation between achievement motivation and attitude to science, though they comment on parallel trends in the way that students' attitude and achievement motivation change over time.

3.6.3. Achievement Motivation and Classroom Environment

Waxman (1996) points out that only a limited number of studies have investigated relationships between the classroom environment and students' achievement motivation. One such study is that of Knight & Waxman (1990). They examined the effects of students' perceptions of their classroom learning environment on their motivation to learn in social studies. The participants were 157 (79 male and 78 female) students from an urban middle school in USA. Three instruments were used in this study: a) The Multidimensional Motivation Instrument - MMI (Uguroglu & Walberg, 1986; Uguroglu, Schiller and Walberg, 1981); b) The Classroom Environment Scale - CES (Fraser, 1982, 1986); c) The Instructional Learning Environment Questionnaire - ILEQ (Knight & Waxman, 1989). The MMI is a questionnaire that measures Achievement Motivation - the extent to which students feel that their performance in school/subject is a direct result of their own effort and prior planning. The MMI also measures academic self-concept and social self-concept. The CES includes six sub-scales: Involvement, Affiliation, Teacher Support, Task Orientation, Order and Organisation, and Rule Clarity. The ILEQ measures students' perceptions of aspects of instruction and the instructional environment, in terms of satisfaction with classes, homework, pacing, feedback and parent involvement. The overall internal consistency reliability of the three instruments when administered together in this questionnaire was .90 according to the Kuder – Richardson Formula 20. Descriptive statistics (means and standard deviation) were calculated for each scale. Stepwise multiple regression analyses were employed to

examine the effects of students' perceptions of their learning environment on achievement motivation. The findings of this study indicated that all the variables related to the students' perceptions of learning environment were related to their academic performance. Four classroom environment variables (Satisfaction, Parent Involvement, Feedback and Task Orientation) had small but significant relationships with the students' achievement motivation. Satisfaction was the classroom environment variable which was most significantly, positively related to achievement motivation (Beta = .21, $p < .01$).

Waxman & Huang (1996-97) examined students' affective outcomes in mathematics classrooms where technology was differentially used. More specifically, this study examined whether students' motivation, anxiety and perceptions of the classroom learning environment in mathematics significantly differed according to the degree of implementation of technology in the mathematics classroom. 1,955 sixth-grade and 1,940 eighth-grade students were randomly chosen from a multi-ethnic school district located within the vicinity of a major metropolitan city in the south central region of the United States. Scales from four instruments were used in this study: the Multidimensional Motivational Instrument (MMI), Uguroglu et al (1981); the Classroom Environment Scale (CES), Fraser (1986); the Instructional Learning Environment Questionnaire (ILEQ), Knight & Waxman (1990); and Motivation Strategies Learning Questionnaire (MSLQ), Pintrich et al (1989). The achievement motivation and academic self-concept scales were used from the MMI instrument, the involvement and affiliation scales were used from the CES instrument, the satisfaction and parent involvement scales were used from the ILEQ, and the anxiety scale was used from the MSLQ instrument. Each scale from the four instruments included three or four items and all of the items were measured on a four-point, Likert-type scale. The degree to which technology was

used was determined using a modified version of the classroom observation schedule (Waxman et al, 1983), from which four indicators were used to measure the percentage of time that calculators or computers were used in the maths classroom. The median interrater reliability (Cohen's Kappa) of this instrument was found to be .98 in this study. From aggregation of data, three levels of technology use were determined: Moderate Technology Use (MTU) = technology used 20% of the time; Slight Technology Use (STU) = technology used 11-19% of the time; and Infrequent Technology Use (ITU) = technology used less than 10% of the time. The ANOVA results revealed that sixth-grade students from the Slight Technology Use (STU) classes had significantly higher involvement, satisfaction and achievement motivation (M = 2.87, 3.05 and 3.20 respectively) than students from both the Moderate Technology Use (MTU) (M = 2.89, 2.68 and 3.13) and Infrequent Technology Use (ITU) (M = 2.87, 2.86 and 3.13) classes. The results for Involvement and Satisfaction were significant at $p < .001$, while that for achievement motivation was significant at $p < .05$. Eighth-grade students from the (STU) class were found to have significantly higher achievement motivation than those from both the (MTU) and (ITU) classes(M = 3.11, 3.02 and 3.02 respectively, $p < .05$).

Thus, both Knight & Waxman (1990) and Waxman & Huang (1996-97) found a correlation between one or more aspect of classroom environment and achievement motivation. This has interesting implications; it raises the question whether teachers may, through manipulation of the classroom environment (for example, choice of teaching methods), be able to enhance students' achievement motivation. The value of doing so, if indeed it is possible, will become apparent in the following sub-section. Waxman & Huang's study is of further relevance because it specifically measures the use of teaching aids and examines their impact.

3.6.4. Achievement Motivation and Achievement

Atkinson (1974) and McClelland (1985) have asserted that achievement motivation plays an important role in determining the level of students' achievement. Evidence that this is the case comes from a number of studies.

Jegede (1994) examined the relationship between achievement motivation, gender, and Nigerian secondary school students' academic performance in English. He hypothesised that the students' academic achievement in English would be related to achievement motivation and to gender. The study was carried out among 160 secondary school students in Ilorin, Nigeria, who were preparing to take the examination for their junior secondary school certificate. Bakare's (1976) Academic Achievement Motivation Scale was used to measure the students' motivation, and an English language test that consisted of 50 multiple-choice items was used to assess the students' English language performance. The results of multiple regression analysis showed that there were no significant gender differences in English language performance and academic achievement motivation. However, the R^2 change of .171, $t(158) = 4.694$, $p < .05$, showed a statistically significant but educationally small relationship between achievement motivation and English language performance.

Schultz (1993) examined the relationships between achievement motivation, socio-economic status and academic performance. The sample consisted of 130 students (ages 9-4 years to 12-7 years, mean age = 10-8 years). A subsample of 66 students, 50 African-American and 16 Hispanic, 35 girls and 31 boys, were identified as less advantaged as determined through school records indicating eligibility to receive compensatory support via a government-subsidised school-lunch programme for low-income children. A subsample of 64 students being educated in the same schools, 46

African-American and 18 Hispanic, 34 girls and 30 boys, was identified as more advantaged, in that they were determined by school records not to be eligible for any compensatory support programme due to parental income levels. The students responded to a self-report questionnaire, the Achievement Motivation Inventory (AMI) that included 24 items adapted from various instruments used to assess achievement motivation and self-regulation in young children (Gottfried, 1990; Harter, 1981; Kunca & Haywood, 1969). Alpha reliability of the AMI was .78. Academic performance was measured by the classroom teachers who individually administered mathematics and reading comprehension sub-tests of the Basic Achievement Skills Individual Screener (BASIS) to each student in the study (Sonnenschein, 1983). Alpha reliability was >.90 for mathematics and >.95 for the reading test. The results indicated that the students who were more socioeconomically advantaged were more likely to achieve higher in mathematics and reading than peers with less socio-economic advantage. Achievement motivation was strongly related to academic performance; students who were reportedly high in achievement motivation performed better in mathematics and reading than students who reported less achievement motivation, for both more advantaged and less advantaged pupils. Students high in achievement motivation tended to score higher in mathematics (adjusted M = 97.0, f (1,125) = 21.5, p< .001), than students low in achievement motivation (mathematics adjusted M = 89.0, reading adjusted M = 88.7). Socio-economic advantage was not significantly related to achievement motivation.

The above studies provide evidence of relationships between achievement motivation and academic achievement. This relationship has been found in studies conducted in different cultures and for different areas of achievement, and it has been found to be independent of socio-economic status.

Also of interest are a number of multivariable (motivation, achievement and attitude) studies which, although they do not claim to measure achievement motivation as such, adopt definitions of motivation consistent with aspects of the definitions presented in Part 1 of this chapter. For example, Olshtain et al. (1990) conducted a study in Israel, which examined the relationship between motivation, attitude toward English language, and achievement in English language as a school subject. A sample of 196 Hebrew-speaking seventh grade students, drawn from three schools participated. Students were classified as advantaged or disadvantaged, according to Ministry of Culture and Education criteria (based on father's education, ethnicity and family size) A Motivation/Attitude questionnaire consisting of 50 items based on Gardner & Smythe (1981) and Gardner & Glicksman (1982) was used to measure the students' motivation and attitude toward English language. The researchers point out that they originally intended to measure attitude and motivation separately. However, factor analysis of the pilot study results revealed that 35 items had loadings of about .50 and could therefore be included in one factor that consisted of attitudes and motivation together (MOTATT). The reliability of the questionnaire was $\alpha = .81$. Achievement was measured through a cognitive academic language proficiency test (CALP) in L1 and an English language Achievement Test (reliability, $\alpha = .86$) adapted from Bejerano (1985). A correlation ($r = .50$) was found between motivation, attitude towards English and achievement in English language, indicating that the higher the motivation and attitude toward English language, the higher the achievement in English. However, compared with mother-tongue proficiency MOTATT explained very little of the variance in EFL performance: 13% for disadvantaged students and only 6% for advantaged students.

Mormori (1993) referred briefly to the concept of achievement motivation in the context of 'relevance' of the learning situation, as a pre-requisite for sustained motivation. However, in discussing what he simply called 'motivation' as applied to second language learning, he suggested that it can be seen as a state of need on the part of the students that produces a strong desire which, in turn, activates and directs their capabilities towards learning the language. Mormori explored the possible interaction among attitude towards English, motivation, and students' performance in English language in two distinct settings. The first study was conducted among 51 young Greek adults from the University of Kent, while the second was conducted among 470 Greek secondary school students, drawn from language schools in Athens. The questionnaires used were modelled on Gardner's (1985) Attitude/Motivation Test Battery (Cronbach alpha ranging from .70 - .85 for the various subscales) which includes three aspects of motivation: instrumental orientation, integrative orientation, and motivational intensity. The second and third of these have similarities with the concept of achievement motivation. The analysis of the data was done by using multivariate statistics, including multiple correlation and regression. The results of the first study indicate that motivation had very little bearing on achievement in English; however, in the second study Mormori found that both attitude towards English and motivation were positively and significantly correlated with students' performance. Pearson Product Moment Correlation coefficients among attitude and achievement ranged from .35 - .76 ($p < .01$) for the various items, while those for motivational intensity items ranged from .29 - .79($p < .01$).

Mohammed-Ali (1988) examined the achievement motivation and attitude of Arabic-speaking students of science and technology in Wales towards English and their relationship to proficiency in English. He adopted Gardner's (1979) definition of

motivation as a set of affective characteristics including the desire to achieve a goal, and amount of effort expended in this direction. One hundred and forty-three Arabic-speaking students pursuing undergraduate courses in science and engineering constituted the sample. The investigation was carried out in five academic institutions, three of which are affiliated to the University of Wales. The student questionnaire was based on the Attitude/Motivation Test Battery which was devised by Gardner and Lambert (1972) and developed by Gardner & Smythe (1981), specifically to be used in a second language. A proficiency test (the cloze procedure) was also administered. The results indicated that motivation was correlated significantly to students' level of proficiency in English (r= 0.2920). Moreover, students who obtain high attitude sores tended to have high proficiency scores (r= 0.3079). The researcher also concluded that there was a strong degree of association between attitudes and motivation, suggesting that attitudes are closely related to motivation.

Al-Nabhani (1996) examined the relationship between Omani students' motivation and attitude toward learning science in English and their academic performance. Although in this study 'motivation' was not specifically designated achievement motivation, Al-Nabhani's discussion of definitions of motivation focused on intrinsic motivation as desire for feelings of competence and self-determination, which leads the individual to seek and try to overcome challenges. In this discussion and his operational definition of motivation as "the combination of effort and desire to achieve a goal desired by an individual" (the goal in this case being to succeed in learning science taught in English), Al-Nabhani appears to intend a concept of motivation which is similar to the concept of achievement motivation used in the present study. The hypotheses of the study were that there would be no significant correlation between the academic performance of

Sultan Qaboos University (SQU) students in learning science through the medium of English, and their attitude towards it, and that there would be no significant correlation between the academic performance of SQU students in learning science through English and their motivation. The sample consisted of 959 students selected from five colleges in the SQU Education, Medicine, Engineering, Agriculture and Science faculties. A scale of 23 items, adapted from Gardner & Lambert (1972), Morton Williams & Finch (1968), and Lunn (1970) (item alphas 0.92 – 0.93) was used to assess generalised and specific attitude toward science. The scale used to measure students' motivation was adapted from Mulla's (1979) scale derived from Gardner & Lambert (1972) and consisted of 24 items(alpha coefficients from 0.80 – 0.76). The finding led to rejection of the two null hypotheses; significant correlations were found between students' academic performance and both their attitude ($r= 0.22$, $p=0.000$) and motivation ($r= 0.16$, $p= 0.000$) toward learning science in English. Students with a positive attitude and strongly motivated students, achieved better academic performance than students with negative attitudes toward science, or weaker achievement motivation.

The last few studies in this section illustrate the difficulty of defining and measuring achievement motivation. However, the definitions of motivation adopted in these studies all share similarities with the definition of achievement motivation adopted in the present study. There is, then, evidence from a number of countries, that achievement motivation is significantly correlated with academic achievement although it should be noted that R^2 values in some of these studies were very low. Of particular interest are those studies concerned with learning a language (English), which is a focus of the present study. These findings indicate that educators who have an understanding of motivation and its

inter-relationship with achievement may be more able to create a learning environment and adopt teaching strategies that are conducive to student success.

3.7. Studies of Attitude

Studies of attitude in relation to achievement motivation were reviewed in the previous section. This section, therefore, focuses on two areas: the relationship between attitude and classroom environment, and the relationship between attitude and academic achievement.

3.7.1. Attitude and Classroom Environment

Moore (1988) conducted a study to investigate the relationships between students' attitude to computers, the classroom environment and nature of computer use and activities of teachers and students in computer studies lessons. The sample consisted of 2,320 students, of whom 747 (23%) were girls, engaged in computer studies, plus 253 teachers, of whom one- quarter were female. Attitude to computers was measured using the Computer and Robots Attitude Questionnaire (CARAQ) developed by Moore (1984, 1985) with an additional scale, SATISFACTION. Alpha values for the scales ranged from .73 to .88. Perceptions of the Classroom Environment were measured using selected scales from existing instruments: the five scale of the Individualised Classroom Environment Questionnaire (Rentoul & Fraser, 1979) which measures perceptions of the actual and preferred classroom environment, and for which the authors report internal consistency for the scales ranging from 0.62 to 0.87; four scales from the CES, discussed earlier, plus an additional scale, RESOURCES. Alpha reliabilities for the classroom environment scales ranged from 0.43 to 0.81, with most values being around 0.70. Classroom environment dimensions were found to be moderately good predictors of

pupils' attitude to computers, with R^2 in the range .10 to .29. In particular, more favourable scores on the CARAQ scales were obtained in environments perceived as high in Involvement and Order & Organisation.

Myers & Fouts (1992) examined how different environments related to students' attitude toward science. Twenty-seven high school science classrooms and 699 students were drawn from four high schools in three West Coast (USA) districts. Assessment of classroom environment was carried out by administering the Classroom Environment Scale (CES), Moos & Trickett (1974) for which Kuder- Richardson formula 20 reliabilities ranged from 0.86 to 0.67 and six-week test-retest reliabilities range from 0.90 to 0.72. The Estes Attitude Scale (EAS), (Estes et al 1981), for which coefficient alpha reliabilities of 0.85 and 0.88 have been reported, was administered to measure how students felt about science as a school subject by requiring students to respond to 15 statements. The results of cluster analysis indicated that positive attitudes toward science were found in classrooms which had high levels of involvement, high student to student affiliation, high teacher support, high order and organisation, high teacher use of innovative teaching strategies, and a low level of teacher control. Lower scores for attitudes toward science were found in classrooms which were high in teacher control and low in the other environmental variables.

Sinclair (1994) examined the effects on learning, achievement motivation, attitude toward science, classroom participation and critical thinking when prediction activities were used in the teaching of genetics concepts. One hundred and seventy-nine high school biology students in three public high schools of Louisiana were involved in the study. Intact classes of four experienced biology teachers served as the experimental – treatment and control classes. Each of the teachers taught one experimental – treatment

class which participated in the prediction activities and one control class which was taught by traditional methods. The research hypotheses being tested were:

1. Students in the experimental-treatment classes would score higher on a genetics achievement test.
2. Students in the experimental classes would score higher on attitude toward science and achievement motivation.
3. Students in the experimental classes would demonstrate a higher correlation than the controls, among greater mastery of genetic concept, enhanced subject-related attitude, and enhanced achievement motivation to learn.
4. Students in the experimental classes would demonstrate enhanced levels of classroom participation and critical thinking.

The genetics achievement test, and tests of attitude toward science and achievement motivation, developed by Simpson & Oliver (1985), were pre- and post-tested with both groups. Two independent observers took field notes describing students in the two groups as they interacted with the teacher and with each other. The biology teachers instructed the control classes using a traditional approach which included lecture, questioning, and laboratory exercises. The students generally took notes on the information presented. The experimental-treatment classes were introduced to the genetics topics by participating in the prediction activities. After the students had made their written predictions, either individually or in co-operative groups, the teachers engaged the classes in dialogue about their responses, encouraging the students to explain the rationale they use in making their predictions.

No significant differences were found between the experimental and control classes for genetics achievement, or attitude towards science, but statistically significant teacher

effects ($p<.0001$) were shown, with students of one teacher reporting significantly less positive attitudes to science on both the pre and post-test. In the pre-test mean scores for attitude were 17-25, 17-03, 17-76 and 21-91 for teachers A,B,C and D respectively, and for the post-test they were 16-34, 16-94, 18-59 and 20-86 for the same classes (lower score represents more positive attitude). The qualitative results indicated that much give-and-take dialogue between the teacher and the students was found in the experimental classes. The observers described the students in the experimental classes as showing more interest, seeming more relaxed, being more anxious to answer questions and discuss their predictions, and seeming to enjoy the lesson more. Students' dialogue and participation was generally described as minimal in the control classes. One of the independent observers wrote, "students in the control class only answered questions when called upon, the lesson was strictly teacher led, developed and completed". However, difference between the experimental and control lessons was less marked for two teachers. Teacher D was described by the observers as tentative and insecure, whilst teachers C and D had more difficulty than teachers A and B in using the prediction activities for their intended purpose of promoting interest and participation and were unable to abdicate control. Their students had lower scores for attitudes to science than those of the other teachers in both pre and post-tests. The researcher concluded that effect of teaching style supports the view that classroom environment has a strong influence on attitude toward science.

The findings of the above studies with regard to any possible relationship between classroom environment and attitude are inconsistent. Myers found a clear relationship between the two variables, while Moore found moderately significant associations for some variables. Sinclair found that individual teaching style had a very strong

relationship with attitude to science, though he found no significant correlation between attitude and teaching methods (i.e. no correlation related to the use and non-use of prediction activities). However, teaching method is only one part of classroom environment which, as is indicated in Part One of this chapter, is a broad and complex concept, encompassing many interacting elements. From the three studies above, there is evidence to support the view that aspects of the classroom environment may contribute in students' development of favourable or unfavourable attitudes toward the subject, the educational institution, or learning more generally.

3.7.2. Attitude and Achievement

Some evidence as to a relationship between attitude and achievement emerged in the three-variable studies reviewed in section 3.6.4, particularly those of Mormori (1993) and Al-Nabhani (1966), which found the two variables to be clearly correlated. Studies focusing more specifically on this relationship are reviewed below.

The central focus of Oliver & Simpson's (1988) study was the belief that student achievement in science is influenced by attitude toward science. They investigated a sample of 850 students selected from twelve schools. Of these, 300 were in the eighth grade and 550 were in the tenth grade. All students were enrolled in mathematics, science and language arts courses. Attitude was assessed using a 58 item instrument (Simpson & Troost, 1982). For the purposes of this study, the sub-scales which measure attitude towards science, achievement motivation in science and science self-concept were used to assess the longitudinal relationship of attitude to achievement. The attitude and achievement motivation subscale were highly reliable (Cronbach alpha = .90 and .85 respectively). Science self-concept (only two items) had an alpha value of .55. Student achievement data were taken from school records of grades in science courses and marks

in standardised tests. The results indicated that students who scored higher in science and mathematics had more positive attitudes towards science and mathematics than those who scored lower ($p= 0.0004$, $r= .03$). the three affective variables together accounted for a large proportion of the variance in achievement, nearly 20% in eleventh grade Chemistry and over 30% in twelfth grade, for example. The researchers concluded by expressing the hope that changing attitudes would result in improved science achievement.

Nasroallah (1988) examined the relationship between students' attitude toward Arabic language and their academic achievement. The sample consisted of 1,657 students in the first and third years of secondary school, selected from three cities in Saudi Arabia: Makkah, Jeddah and Taif. A questionnaire consisting of 60 items designed by the researcher was used to measure the students' attitude toward Arabic language ($\alpha = 0.76$). The academic achievement scores were taken from end of year examinations. The findings indicated that the students in both the first and third years had low attitude scores for Arabic language. There was no significant relationship between students' attitude toward Arabic language and their academic achievement, in either the first or third year samples.

Wright (1989) investigated the affective factors influencing language learning performance, among 59 international post-graduate students enrolled on a professional course in English for academic purposes at the University of Southampton. The findings revealed a significant positive association between attitudes towards the course and perceived or actual progress in the subject.

The findings of these studies provide an inconclusive picture of the possible relationship between attitude and achievement. Oliver & Simpson (1988) found some evidence of an association between achievement in science and positive attitudes towards the subject, and Wright (1989) found a significant correlation between these variables in a language context, but Nasroallah (1988), in a Saudi Arabian study, found no such association. It may be, however, that attitude towards a subject, and the relationship between that attitude and achievement, are also affected by other factors such as gender or culture. Some studies which have included these variables are reviewed below.

Svanes (1988) examined the relationships between students' attitudes to a second language, language proficiency and cultural distance, among a sample of 167 students who came from 27 different countries within Europe, North America, Middle East, Africa, and Asia and all were enrolled in classes in "Norwegian for foreign students". Students' attitudes were assessed by means of questionnaires adapted from Spolsky (1969) and Oller et al (1977). Factor analysis reduced the data from the questionnaire to two attitude factors, one that included traits relating to intelligence, and one encompassing traits related to kindness. Proficiency in Norwegian was assessed by grades in the Level 2 examination, from 1.0 (best) to 4.0 (poorest). He found significant differences between cultural groups in attitude toward Norwegians and towards fellow countrymen. The closer students' native culture to the Norwegian culture, the better their achievement in Norwegian language. However, the correlation analysis showed a negative relationship between attitude toward Norwegians and language proficiency (correlation 0.27 and 0.29 for the factors 'intelligent' and 'kind' respectively, both $p < .01$).

Maqsud & Khalique (1991) examined the relationships between gender, attitude toward mathematics and mathematics performance. A sample of one hundred and nine students (65 girls and 44 boys) was selected from the senior secondary school in Mmabatho (capital of Bophuthatswana). The 24-item Aiken (1979) Scale of Attitude Toward Mathematics (ASATM) was used to measure the strength of attitude toward mathematics. Mathematics achievement scores of the students for their annual examinations from standard 9 to standard 10 were taken from the school records. The results indicated that the secondary school male students' attitudes toward mathematics ($t=2.99$; $p< .01$) were more positive and their performance ($t=2.23$; $p< .05$) significantly higher than those of female students. Attitude toward mathematics was significantly positively correlated with achievement for both male and female students. ($r=.31$, $p< .05$ and $r=.49$, $p< .01$ respectively).

Abouserie et al. (1992) conducted an investigation of gender and attitude toward using computer assisted learning and academic achievement. The sample was 143 first year students enrolled on a physiology course at the University of Wales. A short list of six questions was prepared for the evaluation of students' attitudes toward computer assisted learning. Achievement was determined by students' scores at the end of the academic year in the physiology examination. The results of the study with regard to the students' attitudes toward using computer-assisted learning indicated a positive attitude. In other words, the majority of students were in favour of using computer-assisted learning. There were no overall differences between males and females in their attitudes toward using computer-assisted learning. The relationship between attitude toward computer-assisted learning and achievement scores was not significant.

Abouserie's findings differ markedly from those of Maqsud. Maqsud found significant correlations between attitude towards mathematics and achievement in mathematics. Gender also correlated significantly with both these variables, suggesting that the attitude-achievement relationship is a complex one which may be mediated by gender. Abouserie's findings support neither of these correlations. It is noteworthy, however, that Abouserie's attitude instrument was very short, and the question arises whether it was adequate to produce a reliable result. Insufficient information is given in Abouserie's paper, to permit further assessment of his study or its finding.

Thus, the evidence for the commonly held view that students' attitude to a subject is related to their achievement, is mixed. Moreover, because the results are only correlational, the directionality of any such relationship is uncertain.

3.8 Studies of Classroom Environment

Classroom environment has appeared as a variable in a number of the studies reviewed earlier. Its relationship with Achievement Motivation is described in section 3.5.3. and its relationship with Attitude was considered in section 3.6.1. This section explains two main approaches to studying classroom environment and presents a number of studies which explore the association between classroom environment and achievement.

3.8.1. Approaches to Studying Classroom Environment

Fraser (1986) argued that approaches to studying classroom environment rely on two techniques: observation measures and perceptual measures. It has been common for classroom observation schemes to focus upon low inference variables (low inference measures tap specific explicit phenomena, e.g. the number of student questions), whereas perceptual measures have tended to focus on high inference variables (high inferences measures require respondents to make a judgement about the meaning of classroom environment, eg the degree of teacher friendliness).

Fraser & Fisher (1986) outline some advantages which student perceptual measures have over observational techniques:

1. Perceptual measures are based on students' experiences over many lessons, while observational data usually are restricted to a very small number of lessons.
2. Perceptual measures involve the pooled judgements of all students in a class, whereas observation techniques typically involve only a single observer.
3. Students' perceptions, because they are the determinants of students' behaviour, can be more important than observed behaviours.

4. Perceptual measures of classroom environment typically have been found to account for considerably more variance in student learning outcomes than have directly observed variables.
5. Paper and pencil perceptual measures are more economical than classroom observation techniques, which involve the expense of trained outside observers.

An example of a perceptual study is that of Lim (1995) who examined the extent to which factors such as learning styles, gender and type of schools of the students had an influence on student perceptions of actual and preferred classroom learning environment. His sample consisted of 1,733 students in secondary school in Singapore. The schools were categorised as good, average or below average, according to the performance of the students in the GCE O-level examination, a common examination at the end of secondary five. Two instruments, the Individualised Classroom Environment Questionnaire (ICEQ) and the Learning Style Inventory (LSI) were administered. Alpha reliabilities for the former have been reported by Fraser & Fisher (1983) ranging from 0.63 (actual) and 0.83 (preferred). For the LSI, internal reliabilities (Cronbach alpha) of the scales range from 0.73 to 0.83 (Smith & Kolb, 1986). The study showed that the school type was the variable most strongly correlated with the students' perceptions of both actual and preferred learning environment. In terms of their actual environment, students of the good schools viewed their classrooms as emphasising opportunities for students to have control over their own behaviour and to make decisions (Independence), while students of average and below average schools perceived their classroom as emphasising skills and processes used for problem solving (Investigation) They also preferred the classroom environment to emphasise these factors. Students of below average schools expressed stronger preferences for their interaction with their

teachers (Personalisation) and encouragement to participate in class (Participation). Learning style showed little correlation with students' perceptions of classroom environment. Gender showed some differences in perception of the actual environment. While males perceived their classrooms as allowing greater opportunities for working at their own pace and in their own time, females viewed their classrooms as giving them opportunities to participate and to have control over their own learning.

The only studies of classroom environment available from Saudi Arabia appear to be of the observational type and focused on the amount of use of physical resources. The main interest of these studies has been in teaching methods and the use of teaching aids.

Al-Saif (1996) found that the majority of students interviewed emphasised that the lecture method was the only teaching method they met in their Islamic Religious Science lessons. Also, the majority of teachers interviewed reported using only one teaching method, which was the lecture method. A variety of factors were cited by them for doing so; most frequently mentioned were the excessive length of the IRS curriculum, large class sizes, and heavy teaching load.

Al-Gamdi (1991) stated that most IRS teachers did not use teaching aids and they were not concerned with them. Al-Saif (1996) reported that he had visited 54 IRS classrooms, but had seen no use being made of teaching aids. Indeed, in only one classroom, did he see any teaching equipment, this being an overhead projector. Thus, his main finding was that little or no use was made of teaching aids, at least in part, because of poor facilities and non-availability of equipment. It is, of course, possible that audio-visual aids were not in evidence in classrooms because teachers did not wish to use them, rather than because the school did not possess them or did not wish to obtain

them. The availability of aids is not clear in Al-Saif's study, and would warrant further investigation.

In summary, studies of classroom environment fall into two categories: perceptual and observational. Examples have been given of each type. The former shed light on some factors which may affect perceptions of classroom environment, while the latter have examined specific phenomena (teaching methods and teaching aids) in the context of IRS in Saudi Arabia. From this group it appears that the Saudi classroom environment may be deficient in certain elements that contribute to a favourable learning atmosphere. However, in view of the advantages claimed for perceptual studies, as compared to observational studies, there appears to be a need for a perceptual study in Saudi Arabia, to expand on these limited approaches.

3.8.2. Classroom Environment and Achievement

One of the reasons why educationalists are interested in the classroom environment is that it may have an influence on students' achievement. The studies below examine this possibility; three of them are multivariable studies that consider the possibility of relationships between classroom environment, achievement and attitude.

Waxman (1989) examined black and Hispanic students' perceptions of classroom instruction and determined their impact on students' academic achievement. The participants were 805 students; 394 black and 411 Hispanic. The instrument, our Class and Its Work (OCIW) by Eash & Waxman (1982) was used to assess students' perceptions of their teachers' classroom instruction, alpha reliability ranging from .84 to .92. Students responded on a four-point Likert-type scale to the 40 items included in the questionnaire. This instrument was developed to measure several teacher behaviours

that had been found to affect students' achievement. The Metropolitan Reading Survey Test (Prescott, et al. 1978) was used to assess students' academic achievement. The results indicated that there were significant differences between the black and Hispanic students' perceptions of their teachers' instruction. For both groups a significant relationship was found between students' perceptions of their teachers' instruction and their academic achievement, r= .64 and r= .61 for Black and Hispanic students respectively, both $p< 0.05$.

Payne (1992) investigated the effects of the classroom environment and motivation on black secondary students' SAT scores (SAT = Scholastic Aptitude Test). The participants in this study were 300 twelfth-grade black students, ranging from 17 to 19 years of age. Two self-report instruments were used, the MMI (internal reliability =.91) and the CES (internal reliability of 90, using Kuder-Richardson Formula-20). The results indicated that both achievement motivation and self-concept had a significant, positive association with the Verbal and Mathematics SAT scores. None of the classroom learning environment elements was statistically significantly associated with the Verbal SAT scores, though there was a significant, positive correlation (Beta=.20, $p<.01$) between the variable Order & Organisation and the Mathematics SAT scores. Thus, according to Payne's study, the relationship between classroom environment and achievement may differ for different academic subjects and may be limited to a few or a single component of the environment..

Freedman (1997) conducted an experimental study to examine the relationship among laboratory instruction, attitude toward science and achievement in science for students enrolled in a ninth-grade physical science course in a large urban high US school. Twenty physical science classes (number of pupils unspecified) were involved These

were divided into two groups, experimental and control groups. The experimental group, received a laboratory experience involving small group interaction with materials and equipment, one period each week for 36 weeks. The control group received no laboratory instruction. All classes covered the same body of content knowledge and used the same textbook. Students' achievement in science knowledge was measured using three criteria: score on a mid-term examination; score on a final examination; and final report card grade for the course. Students' attitude toward science was measured using Humphreys' (1975) adaptation of the Q sort, a technique for scoring an attitude survey (questionnaire) to a form suitable for classroom use. The results indicated that there was a definite difference, although not significant at the .05 level of confidence, between the treatment group mean on attitude toward science (M=63.64) and the control group mean (M=60.72) on the same measure. This was evidence, though not conclusive, that the laboratory instruction had a positive effect on the students' attitude toward science. A low positive correlation (r=.359) existed between the students' attitude toward science and their performance on the final examination. The relationship was more positive for the treatment sample (r=.406) than it was for the control sample (r=.291): F= 35-76, $p<.01$ and F= 5.68, $p<.05$ respectively.

Chidolue (1996) investigated the relationship between teacher characteristics and classroom environment, achievement and student attitude in high school biology classes. Eleven biology teachers and 375 form four biology students in 11 high schools located in the Enugu local government area of Anambre State, Nigeria were studied. The student instrument consisted of the following scales: 1) Student Attitude Scale (SAS), with split half reliability of 0.61. The instrument was a five-point Likert Attitude scale, containing 34 statements, 16 of which were keyed to positive attitude, while 18 were keyed to

negative attitude; 2) Student Socio-economic Status (SES) questionnaire, with test-retest reliability 0.69 and; 3) Student Achievement Test (SAT) with a concurrent validity correlation coefficient of 0.85. The teacher instrument consisted of the following scales: 1) the Teacher Background Questionnaire (TBQ) test-retest reliability 0.81 and; 2) the Teacher Attitude Scale (TAS) to measure the attitude of teachers toward the teaching of biology split half reliability, 0.75. It consisted of 21 statements; 10 items were keyed to positive attitude, while 11 were keyed to negative attitude. All these instruments were constructed by the author. Classroom environment was determined by using a modified form of an Interaction Analysis Instrument developed by Fischler & Zimmer (1967-68) which is used to record the direct and indirect verbal behaviours of the teacher. Chidolue explained that a teacher whose indirect ratio is less than 1 is a direct teacher, while a ratio greater than 1 denotes an indirect teacher. The findings indicated a significant relationship between teacher qualification and gain in students' attitude (r= -.68) and achievement (r=-.47). The higher teachers' qualification, the less effective they were in motivating their students to greater achievement and attitude gains, perhaps because the graduate teachers in the study were for the most part young and inexperienced. There were significant, positive correlations between the teacher directness and students' attitude (r=.77) and achievement (r=.71).

With the exception of Payne's (1992) study, which found a correlation between classroom environment for mathematics, but not for Verbal SAT scores, the studies presented above are remarkably consistent in finding a significant association between classroom environment and achievement. In addition, Freedman, (1997) and Chidolue (1996) found a significant association between classroom environment (in Freedman's case, teaching methods) and attitude toward the subject of study. Generally, these

findings support the view that positive classroom environments are linked with better achievement and more positive attitude towards learning and subject-matter among students. This raises the question of whether and , if so, how knowledge about classroom environments can be used to enhance learning.

3.9 Summary of part two

From the studies reviewed, a number of inferences may be drawn, some of which may have relevance for the present study.

Many studies have found that culture, age, and gender differences are commonly found in achievement motivation. (Veroff et al 1984; Maehr et al, 1986; Maqsud & Coleman, 1993; Fontaine, 1994 and Salili 1996).

The present study is not concerned with differences of age or gender, since it focuses on male students from secondary schools. However, it will be carried out in a different culture (Saudi Arabia) from those considered in earlier studies and one which has different customs, so it is possible that cultural factors may have a bearing on any findings in relation to levels of achievement motivation and relationship with other variables. Questions arising from the use of instruments / questionnaires in different cultures must also be considered.

Results concerning achievement motivation and attitude toward academic subjects, from studies focusing on various subjects (including science and English language) suggest the possibility of a relationship between achievement motivation and attitude. Some authors have found a different relationship at different grade levels (Atwater et al., 1995). Others have found significant relationships between achievement motivation and attitude (Talton & Simpson, 1986; Olshtain et al, 1990 and Mormori., 1993). Cannon & Simpson (1985)

comment on a positive association between achievement motivation and attitude, though they did not find the relationship to be statistically significant.

The present study is interested in the possible relationship between achievement motivation and attitude toward each of the three subjects: Islamic Religious Science, Arabic Language and English Language, and in view of the literature presented earlier, the questions arise whether significant relationships will be found between achievement motivation and attitude toward each of these subjects, and whether any differences will be found among the subjects.

The evidence for a relationship between achievement motivation and classroom environment is complicated by the fact that studies have examined different aspects of classroom environment. Nonetheless, associations between achievement motivation and classroom environment have been found (for example Knight & Waxman, 1990; Waxman & Huang 1997). The possible existence of such relationships in the Saudi secondary school context, and whether differences exist according to academic subjects will be of interest to this study, which like that of Waxman &Huang (1997) looks at the use of teaching aids as a potentially important determinant of classroom environment and hence possibly of students' attitudes and learning

There are also many studies which provide evidence of a relationship between achievement motivation and academic achievement in different cultures and different subjects English language (Mohammed-Ali, 1988; Olshtain et al., 1990 and Jegede, 1994) and Mathematics and Reading (Schultz, 1993). However, no studies have so far investigated the relationship between achievement motivation and academic achievement in Islamic Religious Science, Arabic language and English language in Saudi Arabia. The researcher aims to explore whether the association between achievement motivation and

academic achievement found in the literature, holds also for these subjects, in Saudi secondary schools.

Inconsistent evidence has been presented as to whether there is an association between attitude toward academic subjects and classroom environment. While Myers (1992), and Chidolue (1996) found a strong and positive correlation. Freedman (1997) found a low positive correlation, and Moore (1988) found moderate correlations. Sinclair (1994) found a positive correlation for teaching style, but not for teaching methods. Thus, any possible relationship may be affected by differences in the curriculum or in any or many of the aspect(s) of classroom environment investigated. The present study looks at three different academic subjects, so it will be interesting to see whether there are differences among them, in terms of relationship between achievement motivation and classroom environment.

Most of the studies presented about attitude toward academic subjects and achievement found weak correlations Nasroallah, 1988; Svanes, 1988 and Abouserie 1992). Some authors found a positive but not significant correlation (Wright, 1989 and Maqsud & Khalique 1991). These results might be attributed to the validity and the psychometric reliability of the scales used to measure attitude toward the school subject concerned.

This study will consider whether there is any correlation between attitude toward Islamic Religious Science, Arabic language and English language and achievement in these subjects, and whether there are any differences between the subjects.

It appears that classroom environment has a strong, positive relationship with students' achievement Waxman, 1989; Chidolue, 1996 and Freedman 1997). Payne (1992) found a positive correlation in mathematics but not in Verbal SAT.

However these studies were conducted in the West. There is no evidence from research in Saudi Arabia to show whether or not classroom environment is associated with level of achievement, which encourages the researcher to investigate Islamic Religious Science, Arabic language and English language for evidence of any such relationship.

The studies reviewed above have used many different instruments to measure the variables of achievement motivation, attitude toward academic subject and classroom environment as seen in Table 3.1. Each of these instruments has several sub-scales.

No.	Achievement Motivation		Attitude toward		Classroom Environment	
	Instruments	**Alpha**	**Instruments**	**Alpha**	**Instruments**	**Alpha**
1-	MMI	0.90 to 0.98	Simpson & Troost	0.72 to 0.94	ICEQ	0.73 to 0.83
2-	Motivation/Attitude	0.76 to 0.86	Motivation/Attitude	0.70 to 0.93	ILEQ	0.90
3-	Simpson & Troost	0.95	CARAQ	0.73 to 0.88	CES	0.67 to 0.86
4-	AMI	0.78	EAS	0.85 to 0.88	OCIW	0.84 to 0.92

Table 3. 1 Summary of instruments used to measure Achievement Motivation, Attitude toward and Classroom Environment

It appears that the Simpson & Troost and MMI instruments have a good internal consistency reliability to measure achievement motivation and attitude toward academic subjects, with values ranging from .90 to .98 for achievement motivation and from .72 to .94 for attitude. As a measure of classroom environment ICEQ does not have such good reliability values as the ILEQ, but according to Burden et al (1993), the ICEQ is easy to administer and score and has immediate face validity for secondary school teachers and students.

3.10 Conclusion

This chapter has presented definitions and explanations of the concepts of achievement motivation, attitude towards academic subjects, and classroom environment. It has also reviewed studies which have examined the relationships among these variables, and the possible association of these variables with students' academic achievement.

Achievement motivation was seen to be an affective response of the individual towards or away from the prospect of success or failure, viewed in relation to some perceived standard. It has variously been suggested to be innate, learned, or a function of internal or external factors, including the instructional process. It is of importance to educators because it is thought that it has, or may have, an influence on learning outcomes. Several studies have been presented suggesting a significant association between achievement motivation and academic achievement. There is less evidence for a relationship with attitude towards an academic subject.

Attitude is a tendency to feel and act in a particular way in the face of a given object (the referent); it has dimensions of cognition, affect and behaviour. Some educators focus on the development of positive attitudes towards subjects and the learning institution, in a belief that attitude may influence achievement in a positive direction. Others see attitude as an effect or outcome of the schooling experience.

The studies reviewed above suggest the possibility of attitude being influenced by a number of different variables: of culture, teaching and learning , gender, subject matter and academic achievement. However, because of the range of variables examined in the studies, and the different cultural settings in which they were conducted, we cannot say with any confidence that they provide clear evidence of the effects on attitude of any

single factor. It appears more likely that attitude is a function of a complex interplay of influences. However, the finding of an association between attitude and teaching variables (although we cannot be sure of the directionality of any such relationship) is of interest because it may mean that a teacher who is well perceived by the students and who makes the subject interesting, may have a positive influence on students' attitudes toward that subject.

The variable classroom environment encompasses all the many physical, social and psychological aspects of the learning environment that influence learning. In this chapter, particular focus was placed on teaching methods and teaching aids, as elements of the environment which are under the teacher's control, and as representing the few elements which have been studied in a Saudi context. The literature on both teaching methods and teaching aids emphasises the value of student participation or "active" learning, for cognitive outcomes such as recall, problem-solving and development of a enquiring mind. Student-centred teaching method and judicious use of teaching aids are also thought to make lessons more interesting and enjoyable for students. The importance of the classroom environment to educators, then, stems from evidence that perceptions of the classroom environment have a bearing on students' attitude and learning outcomes.

Examples of both perceptual and observational studies of the classroom environment have been given. The latter were Saudi studies, which found evidence of the classroom environment being dominated by over-reliance on the lecture method of teaching, and little or no use of teaching aids. Other studies reviewed examined classroom environment in relation to other variables, and revealed clear evidence of impact on affective and cognitive outcomes. An association with achievement motivation was also found.

A summary of all the empirical studies reviewed in part two of this chapter, together with their main findings, is presented in Table 3.2

These studies have important implications, as they suggest that educators' understanding of the concepts of achievement motivation, attitude and classroom environment, may help them to design more effective learning experiences for their students.

Table 3. 2 Summary of studies of Achievement Motivation, Attitude and Classroom Environment

NO	AUTHOR	DATE	SUBJECT	VARIABLES	SAMPLE	CONT	RESULTS
1	Cannon	1985	Science	AM & AT	821	U.S	strong association between AM and AT.
2	Talton	1986	Science	AM & AT	12 schools	U.S	AM is Significant predictor of AT. R^2=.42, p< 0.05
3	Mohammed-Ali	1988	English language	AM & AT AM & AC AT & AC	143	U.K	strong association between AM and AC, r=0.292. and AT and AC, r=0.3079
4	Moore	1988	Computer	AT & CE	2,320	U.K	Moderate correlation between AT and CE. R^2 in the range .10 to .29
5	Oliver	1988	Math, Art & Science	AT & AC	850	U.S	students who scored higher had positive AT, r=0.03 p=0004.
6	Nasroallah	1988	Arabic language	AT & AC	1,657	K.S.A	no significant relationship between AT and AC.
7	Svanes	1988	Second language	AT & AC	167	Norway	no relationship between AT and AC, r=0.27 and 0.29, p< 0.01
8	Wright	1989	English language	AT & AC	59	U.K	positive association between AT and AC.
9	Waxman	1989	-	CE & AC	805	U.S	significant relationship between CE and AC. r= .64 & r= .61.
10	Knight	1990	Social Studies	AM & CE	157	U.S	highly significant relationship between AM & CE Beta=.21, p< 0.05
11	Olshtain	1990	English language	AM, AT & AC	169	Israel	strong relationship between AM, AT and AC. R=.50
12	Maqsud	1991	Math	AT & AC	109	Bophut-hatswana	positive AT related to higher performance. r=.31(M) r=.49(F)
13	Al-Gamdi	1991	Islamic Science	TA	600	K.S.A	most teachers did not use TA and were not concerned with them.
14	Myers	1992	Science	AT & CE	699	U.S	positive relationship between AT and CE.
15	Abouserie	1992	Computer	AT & AC	143	U.K	no significant relationship between AT and AC.
16	Payne	1992	Math	CE & AC	300	U.S	no significant relationship between CE and AC.
17	Schultz	1993	Math & Reading	AM & AC	130	U.S	strong relationship between AM and AC. p< 0.001, r=039, r=.41
18	Mormori	1993	English language	AM, AT & AC	521	Greek	positive correlation between AM,AT & AC, p< 0.01
19	Jegede	1994	English language	AM & AC	160	Nigeria	significant relationship between AM and AC. R^2=.171, T(158). p< 0.05
20	Sinclair	1994	Science	AT & CE	179	U.S	CE had strong influence on AT toward science, r=.34 & r=.40
21	Atwater	1995	Science	AM & AT	1,413	U.S	strong relationship between AM and AT.
22	Lim	1995	General	CE, TS & GN	1,733	Singapore	participative CE. Little correlation between TS and CE and GN.
23	Salili	1996	General	AM & AG & GN & CL	764	Hong Kong	differences in AM among AG and CL.
24	Al-Nabhani	1996	Science taught in English	AM, AT & AC	959	Oman	significant correlation between AM and AC, r=0.16 p=0.000. and AT and AC, r=0.22, p=0.000
25	Al-Saif	1996	Islamic Science	TM & TA	-----	K.S.A	Only lecture method was used. No use of TA.
26	Chidolue	1996	Biology	CE, AT & AC	375 & 11 Teachers	Nigeria	positive relationship between CE, and AT r=..77. CE, and AC r= .71
27	Waxman	1997	Math	AM & CE	3,895	U.S	strong relationship between AM and CE. p< 0.05, f=4.23
28	Freedman	1997	Science	CE, AT & AC	20 classes	US	Low positive correlation between AT and AC, r=.359.

AM = Achievement Motivation
TS= Teaching Style
AT = Attitude
CE = Classroom Environment
AC = Achievement
AG = Age
TM = Teaching Method
TA = Teaching Aids
CL = Culture
GN = Gender

CHAPTER FOUR

RESEARCH DESIGN AND PILOT STUDY

4.1 Introduction

Part One - Design of the Study

4.2 Aims of the Study

4.3 Design of the Study

4.4 The Student Questionnaire

4.4.1. Reasons for use of Self-report Questionnaire

4.4.2. Construction of the Questionnaire

4.4.3. Achievement Motivation Scale

4.4.4. Attitude Scale

4.4.5. Classroom Environment Scale

4.4.6. Teaching Methods "Scale"

4.4.7. Teaching Aids "Scale"

4.5 Validity of Questionnaire

4.5.1 Achievement Motivation and Attitude

4.5.2 Classroom Environment

4.5.3 Teaching Methods

4.5.4 Teaching Aids

4.5.5 The AMACT Questionnaire as a Whole

4.6 Academic Achievement

4.7 Teachers' Interview Schedule

4.7.1. Reasons for Use of Interview

4.7.2. Construction of Interview Schedule

4. 8 Translation of the Instruments into Arabic

PART TWO - THE PILOT STUDY

4.9 The Aims of the Pilot Study

4.10 The Pilot Study Sample

4.11 Piloting the Student Questionnaire

4.11.1. Data Collection Procedure

4.11.2. Reliability

4.11.2.1 Reliability of Achievement Motivation Scale

4.11.2.2 Reliability of Attitude Scale

4.11.2.3 Reliability of Classroom Environment Scale

4.11.2.4 Reliability of Teaching Methods Scale

4.11.3 Analysis of Teaching Aids Scale

4.12 Piloting of Teacher Interview Schedule

4.12.1. Pilot Interview Procedure

4.12.2 Reliability of the Interviews

4.13 Construction of Teachers' Questionnaire

4.13.1 Content Analysis of Pilot Interviews

4.14 Summary

Chapter Four

Research Design and Pilot Study

4.1 Introduction

This chapter explains the design of the study, the choice of instruments and some of the considerations that had to be borne in mind when planning the research design. The research was correlational in nature and uses a student questionnaire (called the AMACT questionnaire), teacher interviews and a teacher questionnaire to gather data. Descriptions are given of the Achievement Motivation, Attitude, Classroom Environment, Teaching Methods and Teaching Aids scales of the AMACT questionnaire, and their validity for use in this study is discussed. The method used to assess students' academic achievement is also explained. The chapter goes on to explain the development of the interview schedule and teacher questionnaire. Translation procedures are outlined, for instruments developed in English but used in Arabic. There follows a discussion of the piloting of the survey instruments. The target population is identified and the selection of the pilot samples explained. A description of the procedure followed in administering the instruments is then presented.

Part One - Design of the Study

4.2 Aims of the Study

The present study has the following aims:

1- To assess the levels of Achievement Motivation, Attitude and Classroom Environment toward Islamic Religious Science (IRS), Arabic Language (AL) and English Language (EL), of the students in the secondary schools.

2- To obtain empirical evidence on which to make judgements about the relationships between students' achievement motivation, attitude and classroom environment and their academic achievement in IRS, AL and EL.

3- To investigate whether there are any differences between the subject areas of IRS, AL and EL in the relationship between achievement motivation, attitude, classroom environment and academic achievement.

4.3 Design of the Study

Much research in education can be categorised as one of four kinds: historical, descriptive, correlational and experimental research (Cohen and Manion, 1995 and Borg and Gall, 1996). In this study, the researcher adopted the correlational approach, which is explained and justified below.

The correlational method is, according to Borg and Gall (1996) much used for studying problems in education and in other social sciences. The correlation method is used for studies which intend to explore the relationship between variables through the use of correlational statistics (Borg and Gall 1996). Cohen and Manion (1995) stated that

> "correlational techniques are generally intended to answer three questions about two sets of data. First, 'Is there a relationship between the two variables (or sets of data)?' If the answer to this question is 'yes' then two other questions follow: What is the direction of the relationship? and what is its magnitude?"(p. 129)

There are many advantages to the correlation method, including the following:

- It permits the researcher to analyse the relationships among a large number of variables in a single study (Borg and Gall, 1996).
- It provides information concerning the strength of the relationship between the variables being studied (Cohen and Manion, 1995).
- It allows the researcher to analyse how these variables are related to the pattern of behaviour (Borg and Gall, 1996).

The value of the correlation coefficient lies in the range -1 to $+1$ with the sign giving the direction of the relationship and the value r giving the goodness of fit. Two variables are perfectly correlated if ($r = 1.0$) while ($r = .0$) indicates that there is no correlation between the variables. Correlations ranging from 0.20 to 0.35 show only a very slight

relationship between variables, and this level may have limited meaning in exploratory relationship research (Moore, 1995; Cohen and Manion, 1995 and Borg and Gall, 1996). According to Cohen and Manion (1995), most coefficients of correlation in social research are around 0.5 or less. Borg and Gall (1996) report that correlations ranging from 0.35 to 0.65 are useful in educational contexts. These points were adopted as criteria in discussion of any correlations found in this study.

However, it should be noted that correlational research requires at least a moderately large sample. To achieve the three aims of this study, correlational research was selected to enable the researcher to explore the relationship between students' Achievement Motivation, Attitude, Classroom Environment and Teaching Aids and their Academic Achievement in three subjects, IRS, AL and EL. The instruments developed for this study are discussed in the following sections.

4.4 The Student Questionnaire

The researcher used a self-report questionnaire to find out students' Achievement Motivation, Attitude and Perceptions of the Classroom Environment in relation to the academic subjects with which the study is concerned. This section explains the reasons for the choice of this instrument and describes the content of each of its scales.

4.4.1. Reasons for Use of Self-report Questionnaire

Questionnaires are regarded by social scientists as the most widely and frequently used data collecting device as far as behavioural and organisational studies are concerned. Also, they can be used to obtain information about current conditions and practices and to ascertain attitudes and opinions about an issue, object or situation (Lovell and Lawson, 1970). In the same way, Stone (1978) stated that questionnaires aim to assess attitudes, opinions, or demographic characteristics of respondents. In addition, Ary et al. (1990) suggested that they tend to be used to explore attitudes and opinions about certain issues, objects and situations.

Drever (1956) defined the questionnaire as

> "a series of questions dealing with some psychological, social, educational etc. topic or topics, sent or given to a group of individuals, with the object of obtaining data with regard to some problems, sometimes employed for diagnostic purposes or for assessing personality traits" (p. 237).

Oppenheim (1994) points out that questionnaires can be self-administered or used with groups (e.g. students in class-settings), though because the written questionnaire involves reading, it can only be used with literate respondents. The questionnaire, which can consist of a number of questions or items (Wolf, 1988), is seen as an essential scientific instrument for measurement and for collection of specific data (Oppenheim, 1994).

Some merits of the questionnaire, according to Henerson et al. (1987) are:

- It provides sufficient time to help respondents think and answer accurately.
- Using a questionnaire enables the researcher to gather data from a large number of respondents simultaneously.
- All the respondents respond to the same statements, at the same time.
- Data collected by using the questionnaire can be analysed more easily than data yielded from interviews.
- There is a choice to administer the questionnaire directly or by post.

Ary et al. (1990) pointed out that the instructions in questionnaires are standard for all respondents and in contrast to interviews, the personal appearance of the researcher will not influence the results. In addition, Hopkins (1985) stated that the questionnaire is easy to administer; quick to fill in and easy to follow up. Also, data are quantifiable; thus, questionnaires are suited to correlational research.

Oppenheim (1994) emphasised that questionnaires are efficient and practical since they allow for the use of a large and representative sample. Thus the researcher can obtain the required data within a relatively short time and at a reasonably low cost per subject surveyed.

In view of the above, and because no suitable instrument was identified in the literature review, the researcher developed the AMACT questionnaire, to obtain data from students. The questionnaire consisted of four scales, each concerned with a variable which the literature review had suggested may have a significant influence on achievement, namely:

i. Achievement Motivation (AM) toward IRS, AL and EL.

ii. Attitude (A) toward IRS, AL and EL.

iii. Classroom Environment (C) in IRS, AL and EL.

iv. Teaching Aids (T) in IRS, AL and EL.

4.4.2 Construction of the Questionnaire

Having explained in the previous section the need for particular scales, it is appropriate to discuss how the questionnaire was constructed. This is the purpose of this section. Constructing questionnaires is a very crucial and profound process. Therefore, care needs to be taken in the design and preparation of a questionnaire. Cohen and Manion (1995) point out that the ideal questionnaire should be clear, unambiguous, and uniformly workable. It should help the respondent to be willing to respond and encourage him to be co-operative in giving the real responses. Bynner et al. (1979) stated that a questionnaire should contain a set of questions or items about the subject-matter, attitudes and some open-ended questions.

If questions are not understood or have major flaws, such as double-barrelled items, doubt will be cast on the validity and the usefulness of the study as a whole. During the process of developing the questionnaire, therefore, a number of important points, which contribute significantly to the preciseness and appeal of the instrument, were borne in mind. The questionnaire was constructed in accordance with the following principles:

a- Questions and statements should be short and precise;

b- Questions and instructions should be clear and understandable to all subjects of the sample;

c- A statement should not connote more than one question, i.e., any question should entail only one answer.

d- As much as possible, statements should be responded to by ticking one of several choices, except in extremely rare cases where open-ended questions were asked or

elaboration on answers was required. This is to reduce the time required to complete the questionnaires and to facilitate accurate statistical analysis of responses;

e- Personal questions and questions related to private or confidential information were avoided as much as possible, as such questions might have discouraged respondents from responding honestly or responding at all.

The major variables of the main study, namely, Achievement Motivation, Attitude, Classroom Environment and Teaching Aids were measured using the AMACT questionnaire. The AMACT Questionnaire was adapted from several sources which the review of literature had shown to be reliable and widely used in research of this kind (see the following sub-sections for details). In the form used by the researcher, it was specifically concerned to measure Achievement Motivation, Attitude, Classroom Environment, Teaching Methods and Teaching Aids in Islamic Religious Science (IRS), Arabic Language (AL) and English Language (EL). Three versions of the questionnaire were produced, differing only in the subject (IRS, AL, EL) referred to in each.

The questionnaire was first designed to be answered using a 5-point rating scale to measure the Achievement Motivation, Attitude and Classroom Environment sub-scales (AMAC). This rating scale corresponded to the following opinions:

(5) strongly agree; (4) agree; (3) undecided; (2) disagree; (1) strongly disagree.

However, according to Moore (1996), using a scale of 4 points only, SA, A, D and SD, and with scores of 5, 4, 2, 1, reserving (3) for missing values is more reliable than the same scale with Not Sure (NS) in the middle. Therefore, the Undecided category was removed from the questionnaire, and the value 3 used in the SPSS analysis, for missing values.

The Teaching Aids scale was answered on a 3- point scale, using the values (2) Always; (1) Sometimes; (0) Never. Again, the value 3 was used for items where more than one choice was ticked and for items which were left blank

Some statements which were originally positively-worded were changed to negatively-worded statements, so as to measure both positive and negative reactions of students.

At the end of the questionnaire, an open-ended section was included for any comments or suggestions related to IRS, AL, and EL. The scales of the AMACT questionnaire are discussed individually, below.

4.4.3. Achievement Motivation Scale

The scale contained 14 items, all designed to measure Achievement Motivation. Of these 14 items, four (1-4) were adapted from the Achievement Motivation sub-scale of an instrument developed by Simpson and Troost (1982). The adaptation lay in adding the phrase 'in IRS' (or AL or EL, as appropriate), to each item, to give it face validity in the light of the specific contexts of interest in this investigation. The next five items (5-9) were adapted from the Achievement Motivation sub-scale of the Multidimensional Motivation Instrument (MMI) of Uguroglu, Schiller and Walberg (1981), which specifically measures Achievement Motivation across subjects. Again, the minor adaptation was in the rephrasing to relate the item specifically to IRS, AL, or EL. These small changes were not felt to alter the items in any significant way.

The remaining 5 items (10-14) were drawn from the experience of the researcher, who has been a Teacher Trainer for students in the disciplines of Islamic Religious Science and Arabic Language for ten years. It has been his experience, that interest in a subject strongly motivates students to achieve. Therefore, five items were devised which were

thought by the researcher to be able to measure the interest of students, for inclusion in the Achievement Motivation scale (Table 4.1).

	Direction	Source
1-I always try hard in *(IRS) no matter how difficult the work.	+	ST**
2-When I fail in (IRS) that makes me try that much harder.	+	ST
3-I don't try to do my best in (IRS).	-	ST
4-I try hard to do well in (IRS).	-	ST
5-When I do something in (IRS) , I usually plan carefully.	+	MMI
6-When I start a new project in (IRS), I often don't finish it.	-	MMI
7-When I do well in (IRS) it is because I work hard .	+	MMI
8-When I do well in (IRS), it is because I am lucky.	+	MMI
9-When I have a hard problem in (IRS) I usually keep trying to solve it.	+	MMI
10-I don't think about the ideas which I learn in (IRS).	-	R
11-What I learn in (IRS) subjects helps me in other Studies.	+	R
12-I don't find any benefit for (IRS).	-	R
13-When I have a homework to do in (IRS) I do it immediately.	+	R
14-(IRS) is one of the most interesting subjects in our curriculum.	+	R

* AL or EL. are substituted for IRS as appropriate.
** ST = Simpson and Troost (1982). MMI = Uguroglu et al (1979). R = researcher
Table 4. 1 Statements of achievement motivation scale.

Table 4.1 shows the first four items (1-4) adapted from Simpson and Troost (1982), the next five (5-9) adapted from Uguroglu, Schiller and Walberg (1979) and the remaining five (10-14) constructed on the basis of the researcher's experience. All these items are related to Achievement Motivation toward IRS, AL and EL. The table also indicates the direction of statements, though the positive and negative signs were not shown in the respondents' copies.

4.4.4. Attitude Scale

This scale was designed to find out students' attitude toward the three academic subjects on which this study focuses: IRS, AL and EL. The Attitude scale also contained 14 items. Of these 14, 11 items (1-11) were adapted (by specifying the context, IRS, AL, EL)from the Attitude sub-scale of Simpson and Troost's (1982) questionnaire, mentioned previously. Three items (12-14) were adapted from an instrument used by Simpson and Oliver (1985) used to measure the Attitude toward Science and Achievement Motivation profiles of male and female science students in Grades Six to

Ten. (Table 4.2), substituting IRS, AL or EL for the word science. Again, the changes made were minor, and not likely to invalidate later comparisons.

	Direction	Source
1-We learn about important things in *(IRS).	+	ST**
2-We cover interesting topics in (IRS).	+	ST
3-I don't like our (IRS) textbook.	-	ST
4-I have a good feeling toward (IRS).	+	ST
5-I don't enjoy (IRS) classes.	-	ST
6-I really like (IRS).	+	ST
7-I would not enjoy being an (IRS) teacher.	-	ST
8-I think (IRS) teachers are neat people .	+	ST
9-Everyone should learn about (IRS) in school.	+	ST
10-My (IRS) teacher encourages me to learn more about (IRS).	+	ST
11-I don't enjoy talking to my (IRS) teacher after class.	-	ST
12- My (IRS) teacher makes good plans for us.	+	SO
13-Sometimes my (IRS) teacher makes me feel dumb.	-	SO
14-(IRS) teachers can be trusted and depended upon.	+	SO

* AL and EL. are substituted for IRS as appropriate.
** ST = Simpson and Troost (1982). SO = Simpson and Oliver (1985).
Table 4. 2 Statements of Attitude scale.

Table 4.2 indicates the first eleven items (1-11) adapted from Simpson and Troost (1982) and the remaining three (12-14) adapted from Simpson and Oliver (1985). All these items are concerned with Attitude towards an academic subject, and were applied in this study to attitude towards IRS, AL and EL. Again, the table shows the direction of statements, though these did not appear in the respondents' copies.

4.4.5. Classroom Environment Scale

The two scales of Classroom Environment (Personalisation and Participation) which made up the 13 items in this scale were adapted (by specifying the context, IRS, AL or EL) from the Individualised Classroom Environment Questionnaire (ICEQ) developed by Rentoul and Fraser (1979). The full ICEQ consists of five scales, Personalisation, Participation, Independence, Investigation and Differentiation, with ten items per scale. Only those items which appeared to be particularly relevant to this study were selected; some items in the original instrument were related to practical work such as laboratory experiments in science, and so were not applicable to the subjects of interest in the current research. Of the 13 items, 4 (1, 4, 7 and 10) were drawn from the sub-scale on

Personalisation and 9 (2, 3, 5, 6, 8, 9,11,12 and13) from the sub-scale on Participation, as shown in Table 4.3, which also shows the direction of the statements.

Personalisation	**Direction**
1-The *(IRS) teacher helps each student who is having difficulties in understanding the lesson.	+
4-The (IRS) teacher uses tests to find out where each student needs help.	+
7- The (IRS) teacher tries to find out what each student wants to learn about.	+
10- Students are not encouraged to be considerate of other people's ideas and feelings in (IRS) lesson.	-
Participation	
2- Students do not discuss the theme of the (IRS) lesson	-
5- Students sit and listen to the(IRS) teacher.	+
6- Students do not ask the IRS teacher questions.	-
3- The (IRS) teacher lectures without students asking or answering questions	+
8- Most students do not take part in discussion during (IRS) lessons	-
9- The (IRS) teacher talks rather than listens	+
11- Students are asked questions in (IRS) lesson	+
12- There is no classroom discussion in (IRS) lesson	-
13- Students are allowed to give their opinion during discussion in the (IRS) lesson.	+

* AL and EL are substituted as appropriate.

Table 4. 3 Statements of classroom environment scale.

All these items are linked to Classroom Environment in relation to the IRS, AL and EL teacher and to that extent it was considered justifiable to treat them as constituting a single scale, subject to testing for homogeneity in the pilot study (see section 4.11).

4.4.6. Teaching Methods "Scale"

The Teaching Methods section of the questionnaire was not a scale in the strict sense. It was, rather, a check-list of methods which may or may not be used in secondary school IRS, AL and EL lessons, and was not intended or expected to be homogeneous. This section consisted of 8 items, which aimed to reflect the four different types of teaching methods discussed in the literature, namely, Lecture, Discussion, Discovery and Programmed Learning.

Two items were constructed to reflect each one of these for teaching methods. Table 4.4

1-The (IRS) teacher mostly uses talk as a means of communicating to the students
2-The (IRS) teacher frequently dictates from his notes.
3-The (IRS) teacher asks questions to the students.
4-The (IRS) teacher allows students to exchange ideas through class discussion.
5-The (IRS) teacher gives students direct experience of practical situations.
6-The (IRS) teacher helps students in problem-solving.
7-The (IRS) teacher sets up individual programme for students.
8-The (IRS) teacher uses group work to acquire skills of inquiry.

* AL and EL are substituted as appropriate.

Table 4. 4 Statements of Teaching methods part of the AMACT questionnaire; items constructed by the researcher.

Table 4.4 shows the 8 items. These items have a two-point response scale: True or Mostly True (T) if the particular teaching method is used, False or Mostly False (F) if the particular teaching method is rarely or never used.

4.4.7. Teaching Aids "Scale"

For the purpose of this study, 15 teaching aids were listed, Respondents were asked to identify which ones they had seen used in the teaching of IRS, AL and EL (Table 4.5). No attempt was made to assess the frequency with which each Teaching Aid was used. Such an attempt would have been unworkable in the context of this study; a separate research project would be needed.

Teaching Aids Scale			
1- boards	☐	9- educational TV	☐
2- charts	☐	10- tape recorder	☐
3- models	☐	11- computer	☐
4- overhead projector	☐	12- newspaper	☐
5- slide projector	☐	13- magazine	☐
6- filmstrip projector	☐	14- libraries	☐
7- the video tape recorder	☐	15- language laboratory	☐
8- radio	☐		

Table 4. 5 Shows a list of 15 teaching aids for respondents to tick the ones which they had seen used in the teaching of IRS, AL and EL.

4.5 Validity of Questionnaire

A commonly used definition of validity is the degree to which a test measures what it purports to measure. Hence, validity is an important feature of the research instrument since it provides the measure of how well that instrument fulfils its functions. In this respect, Henerson et al. (1987) pointed out, validity must answer the question: Is the instrument an appropriate one for what needs to be measured? There are, however, several kinds of validity: face validity, content validity, predictive validity and concurrent validity. Face, content and concurrent validity were considered in this study.

Face validity means that the instrument appears to reflect the content of the concept in question.

According to Litwin (1995), face validity is often based on a cursory review of items by untrained referees, such as brother, sister, wife or husband. It is the least scientific measure of all the validity measures and is often confused with content validity.

Many research scientists believe that face validity is not really sufficient. (Oppenheim, 1994; Borg and Gall, 1996; Moore, 1995), which is why the researcher also considered two other types of validity. Nonetheless, face validity provides a useful initial indication of the comprehensibility and likely relevance of an instrument.

Content validity is defined as the degree to which the sample of test items represents the content that the test is intended to measure. So content validity requires the researcher to ensure that coverage of content in the questionnaire is satisfactory, i.e., it requires the comprehensive and representative selection of items.

Concurrent Validity, according to Oppenheim (1994) shows how well the test correlates with other, well validated measures of the same topic.

A number of actions were taken to ensure the validity of the questionnaire used in this study. First, in the construction of the questionnaire, reference was made to existing instruments which had previously been used in several other studies to measure certain variables of interest to this study, namely, Achievement, Motivation, Attitude towards academic subjects and Classroom Environment. As indicated earlier in this chapter, a large part of the AMACT questionnaire was constructed of items borrowed from such instruments, with the minimum of modification. The Achievement Motivation and Attitude scales drew on Simpson and Troost's (1987) questionnaire which has been used by, among others, Cannon and Simpson (1985), Talton and Simpson (1986), Oliver and Simpson (1988) and Atwater et al (1995). Other items were taken from the MMI of Uguroglu, Schiller and Walberg (1979), scales from which have been used by Knight and Waxman (1990), and Waxman and Huang (1996-97). The instrument on which the researcher drew in formulating the Classroom Environment scale, the ICEQ, has been used by Fraser and Fisher (1986) and Lim (1995). Thus, these three scales of the questionnaire were similar to those used in several previous well-validated studies, as shown in Chapter Three, Table 3.

On completion of the first draft of the questionnaire, the researcher sought an indication of its face validity by distributing six copies to post-graduate students at English universities to obtain opinions on the face validity of the scales. All these judges indicated that the items appeared to be clearly phrased, understandable and relevant to the purpose and scope of the study as they understood it. They made no suggestions for any addition, removal or amendment of items.

The researcher addressed content validity in the AMACT by comparing its items with the variables identified in the literature review (see Chapter 3) as likely to affect the study, i.e. Achievement Motivation, Attitude toward Classroom Environment and

Teaching Aids. Moreover, to confirm the content validity of the items of the AMACT, experts' opinions were obtained as follows:

- Trainers from the Departments of Islamic Religious Science, Arabic Language and English Language in the Educational College, four Trainers from the Department of Education.
- These experts were asked to express opinions on the content validity of the items in the Achievement Motivation (AM), Attitude (AT), Classroom Environment (CL), Teaching Methods (TM) and Teaching Aids (TA) scales of the AMACT according to the following checklist.
- (1) the clarity and appropriateness of the wording of each item included in the instrument; (2) the content of the instrument to determine whether it adequately reflected the variables of interest in this study (Achievement Motivation, Attitude, Classroom Environment Teaching Methods and Teaching Aids).
- It was stressed that experts were not asked to respond to the items (whether they agreed or disagreed), but to give a critical judgement as to whether the items belonged to their scales or not.
- To obtain their views about the strength of the relationship between each item and its scale or section, referees were asked to tick one of the four boxes: NR (not relevant), MR (minimally relevant), FR (fairly relevant), or VR (very relevant). They were also invited to make any suggestions about the items, scale (appropriateness of items) and questions.
- All questionnaires were collected personally. Almost all of the referees were interviewed after they completed the questionnaire and invited to give extended comments about the variables and content of the questionnaire.

Table 4.6 shows that no items in AM, AT and CL were removed for any of the three subjects IRS, AL or EL. In the case of TM, 3 items, 2 items and 3 items were removed

from IRS, AL and EL respectively. In the case of TA, 7 items, 5 items and 4 items were removed from IRS, AL and EL respectively. That means that the respondents agreed that 100% of the AM, AT and CL items belonged to their scales, 63%, 75% and 63% of TM items in IRS, AL and EL respectively belonged to their scales and 53%, 67% and 73% of TA items in IRS, AL and EL respectively, belonged to their scales.

Ques. Name	No. of items removed			No. of retained items		
	IRS	AL	EL	IRS	AL	EL
AM	-	-	-	14	14	14
AT	-	-	-	14	14	14
CL	-	-	-	13	13	13
TM	3	2	3	5	6	5
TA	7	5	4	8	10	11

Table 4. 6 Number of items removed and number of items retained, by scale and academic subject.

Also, there were many valuable suggestions. The following alterations, as suggested by the judges, were made.

4.5.1 Achievement Motivation and Attitude

All the items in this scale were found to be valid, though it was suggested that the wording of item 3 should be modified to make clear that it referred to texts other than the Quran. *I do not like our Islamic Studies Textbook except the Holy Quran*, instead of *I do not like our Islamic Studies Textbook.*

4.5.2 Classroom Environment

All the items in this instrument were considered relevant and understandable. No suggestions were made for alteration and so the items were retained as originally drafted.

4.5.3 Teaching Methods

The judges felt that this section was unnecessary, as in their view its content overlapped with that of the classroom environment scale. However, the researcher decided to keep it, pending the outcome of the pilot study (for this, see Part Two of this chapter).

4.5.4 Teaching Aids

With reference to the Teaching Aids Scale, the judges (Trainers) observed that most of the listed teaching aids (Models; Overhead projector; Slide Projector; Radio; Computers; Newspapers; Magazines; Language laboratory) were not in use in secondary schools in Saudi Arabia, in the teaching of IRS, AL and EL. Despite the observation of the trainers, the researcher maintained the list of the teaching aids in order to obtain the students' reactions, and for confirmation of the trainers' observation, since they would have finished their school education several years previously, when the use of teaching aids was likely to be less widespread.

4.5.5 The AMACT Questionnaire as a Whole

There was consensus among the jury that the AMACT was comprehensive and well-structured. However, they said that the AMACT was too long, and that it should be reduced in length in order to be more suitable for students in the secondary school who might become tired when responding to it. The researcher addressed this problem by dividing the questionnaire into two versions, a 'pink' version which related to IRS and AL, and a 'blue' version which related to IRS and EL. Thus, the number of questions answered by each respondent was reduced from 192 to 128.

4.6 Academic Achievement

In order to relate the findings from the AMACT questionnaire to students' academic achievement, some measure of the latter was required. In Saudi Arabia, all students sit examinations, set by the Ministry of Education (see Chapter 2, section 2.7 for more details). The examinations are based on a standard national curriculum and are standardised throughout the country. To ensure security and objectivity in the conduct of these examinations, candidates are given index numbers. Scripts are marked centrally by the national examining body and results computed and sent to students via their school heads. They are also published in newspapers in the form of league tables. The results in those examinations constitute a standardised and accessible measure of academic achievement. Accordingly, in this study the students' grades in the examinations in IRS, AL and EL were used to represent academic achievement. The validity and reliability of these test results will be discussed in Chapter Five as the data could not be collected until the end of the academic year (when students take the final examination of the secondary stage), so their validity and reliability were tested as part of the main study analysis.

4.7 Teachers' Interview Schedule

It was decided that information about teachers' perceptions of students' ability, achievement motivation and attitudes, as well as teaching aids and methods in use, would be obtained from secondary school teachers of IRS, AL and EL, by means of interview. This section explains the considerations underlying this choice, and describes the interview schedule.

4.7.1. Reasons for Use of Interview

Interviews are very similar to questionnaires, though they differ from them in the fact that the interviewer makes a face-to-face interaction with the respondent, and directs questions to the interviewee and records the obtained responses, whereas in questionnaires the respondent reads for himself and records the elicited responses.

Kahn and Cannell (1957) regarded the interview as an instrument enabling the respondents' reactions to be accurately recorded. In the same way, Ary and his associates (1990) saw the interview as a tool to obtain truthful information and they argued that no other tool offers the advantage of the interviewer being present to explain the questions and their meaning when these are unclear to the interviewee. Parry (1982) saw interviewing as a social interaction, and pointed out that both the interviewer and the respondent bring expectations of each other to the meeting.

Oppenheim (1994) warned that the interviewer may influence the respondents by means of facial expression, intonation, by pausing at certain points, by using leading questions or various other cues. The situation is further complicated by researchers' tendencies to record preferentially data that agree with their own personal convictions (Good and Hart, 1952). In relation to this, Parry (1982) noted that the interaction between respondents and the interviewer is subject to bias from many sources. For example, the personal experience, sex, age, social status, race and ethnicity of the interviewer may

influence the respondents (Oakley, 1981). In the same way, Al-Assaf. (1995) warned of the possibility of the responses of the subject being influenced by the interviewer in a variety of subtle ways, related to his or her appearance and manner, which will have different meanings for different subjects.

According to Willis (1977), analysis and presentation of interview data can cause more problems than the tabulation of figures from questionnaire data which may be presented with minimal interpretation by the researcher. Moreover, interviews are expensive (Verma and Beard, 1981 : Slavin, 1984). If a large sample is to be interviewed, then a great deal of money, time and effort may be needed for transportation and several trained interviewers may be required. Training interviewers is a long and costly process in itself.

However, there are advantages in the use of the interview as a research instrument. These are:

- Many persons are more willing and will therefore provide data more readily and of greater validity in an interview than by filling in a questionnaire (Lovell and Lawson, 1970; Oppenheim, 1995).
- The interviewer can answer questions from the interviewee and can put him or her at ease. This can build up a positive climate for both co-operation and truthfulness (Ary et al, 1990).
- The interview provides an opportunity to question thoroughly certain areas under investigation and allows for a greater depth of response (Ary et al, 1990).
- The interview is flexible and adaptable to the individual situation (Ary et al, 1990; Oppenheim, 1994).

There are many ways of carrying out an interview, from an informal type to a very structured one. Borg and Gall (1996) stated that there are three kinds of interview that

may be used specifically as research tools: the structured interview; the semi-structured interview; and the unstructured interview. In the structured interview, the interviewer asks each respondent a series of questions, which have been carefully constructed in the interview guide (Nisbet and Entwistle, 1970). As Borg and Gall (1996) explain, in contrast, the semi-structured interview involves asking a series of structured questions and then probing more deeply using open-form questions to obtain additional information. In this type of interview the questions are usually pre-tested in a number of people to check whether any questions are unclear.

In contrast to the structured and semi-structured interviews, the unstructured interview is one in which the interviewer does not work from a detailed interview guide but works to a general plan, asking questions with a view to leading respondents towards giving the type of information sought (Burroughs, 1971; Borg and Gall, 1996). For the investigation of complex or sensitive topics, a flexible interview format is likely to be more successful than the structured approach in reflecting accurately the respondent's opinion (Moser, 1958). Structured interviews cannot adequately capture complex information. However, totally unstructured interviews may not yield the information required. It would be unwise to assume that the interviewee's uninterrupted, undirected talk, will clearly indicate his perspective or cover those issues of particular interest to the researcher. It is for this reason that Merton and Kendall (1946) developed the idea of the focused interview, which, while seeking to follow the principle of non-direction, introduces more interviewer control. The researcher undertakes some prior analysis of the situation in which subjects have been involved (Cohen and Manion, 1995) in order to identify the relevant areas of enquiry and limits the discussion, accordingly, to certain parts of the respondent's experience.

For educational research, the semi-structured interview is recommended by such writers as Borg and Gall (1996) for its ability to provide a desirable combination of objectivity

and depth and to permit the gathering of valuable data that may not have been obtainable by any other approach.

For this study, an interview schedule which included fully structured and semi-structured parts was developed to obtain detailed qualitative and quantitative information from teachers which might provide an interesting point of comparison with student perceptions and furthermore, would give the researcher a broader understanding of the problem situation which might prove helpful in formulating recommendations.

4.7.2. Construction of Interview Schedule

Semi-structured interview schedules were conducted in this study to gather the views of teachers regarding Students' Achievement, Teaching Aids and Classroom Environment. The interview questions were planned with the following considerations in mind:

1. The questions were designed to related to the research aims.
2. The questions were clear and unambiguous.
3. The interviews started with broad, open-ended questions which were followed by supplementary question which were aimed at illuminating specific points.
4. Direct questions were avoided, since there was a danger that they would have inhibited the interviewees in their replies.

The interview schedule was as follows:

Could you tell me about your teaching?

- Teachers' views of Students' Achievement

1. What is your opinion of the achievement of students in your subject?
2. What causes this level of achievement?
3. How can you as a teacher try to increase the number of higher achievers?

- Teachers' views on Teaching Aids available in the school and to what extent they are used

1. Could you tell me about the teaching aids available in the school?
2. To what extent do you use these teaching aids in your subject?
3. Can you think of any other teaching aids which you have not mentioned that could be helpful to the students?

- Teachers' views on Teaching Methods used

1. What teaching methods do you use most often?
2. What is the reason for choosing these methods?
3. Which other teaching methods would be appropriate in the teaching of your subject?
4. Why would you like to use it/them?
5. What problem (s) stop (s) you using this method?

- Teachers' views on Students' participation during the lessons of IRS, AL and EL

1. Do the students discuss their lessons in the classroom?
2. Do most students take part in class discussion?
3. Do the students ask you questions about the lesson?
4. What do you think is the best way to encourage students to participate in a lesson?

It was not considered feasible, bearing in mind constraints of time and resources, to interview all teachers of IRS, AL and EL in the schools surveyed, as this would have meant conducting some 150 interviews, each of which, it was estimated, would take about one hour. It was therefore decided to conduct semi-structured interviews with only 24 teachers at an early stage in the study. At a later stage, the same basic questions were posed to the remainder of the teachers, but in the form of a questionnaire, making use of the original interviewees' responses in choosing and forming questions. The original open-ended questions were converted into multiple choice questions, the

response options offered being derived from the responses of the 24 teachers with whom in-depth interviews had been held (see section 5.9.2. for more details).

4. 8 Translation of the Instruments into Arabic

The questionnaires and interview schedules were developed in English-speaking countries, the former in the United Kingdom, Australia and the United States of America, and the latter in the U.K., but the mother tongue of the subjects targeted in this study is Arabic. In view of this fact, it was necessary to translate the instruments into Arabic for the respondents. However, the process of translating a psychological measure is an operation that is far from straightforward. In this study the process of translating the instruments proved both challenging and laborious.

Among the methods of translating a questionnaire put forward by Brislin (1980), back translation was taken to be most suitable for the present study. In the conventional back translation technique, Brislin (1970) recommends the process to be as follows:

1- The original transcript be translated into the target language;

2- The target transcript be grammatically checked;

3- The target transcript then be translated back into the original language and checked against the original;

4- A pre-test be undertaken before actual application.

In the present study this technique was followed precisely. Three competent Arab postgraduate scholars from English universities studying English Literature, Translation and Linguistics were independently contacted for this purpose. The first, who specialised in translation between Arabic and English, was given the assignment of translating the instruments from English into Arabic. The result was then given to another scholar for checking grammar, and a few very slight changes were made as a result. The process of back translation into the original language was carried out by the third person. The outcome of the back translation was remarkably similar to the original one, though some differences were spotted. Joint discussion between the researcher and

translators, and comparison of versions, resulted in slight changes made to some terms in the Arabic version.

Part Two - The Pilot Study

4.9 The Aims of the Pilot Study

After the construction and translation procedures outlined in the foregoing sections, the questionnaire and interview schedule were pilot tested.

Evans (1978) has indicated several purposes which a pilot study may have. In the first place, it gives the researcher a chance to practise administering the tests. Accordingly, the chance of making a mistake which would spoil the whole investigation is greatly reduced. Furthermore, the pilot study will bring to light any points of weakness in the administrative procedures. Feedback will also be obtained with regard to the collection of information together with insights into the results to be expected from the main investigation.

In summing up the benefits of a pilot study, Oppenheim (1994) states that although a pilot study may incur considerable expense, it will actually save time and money in the end. Studies which have been inadequately piloted or not piloted at all, run the risk of finding that a great deal of effort has been wasted on unintelligible questions producing unquantifiable responses and uninterpretable results.

The need for piloting the study was felt by the researcher in order to obtain first-hand information concerning the research procedures proposed for the study. More specifically, the purposes for which the pilot study was carried out can be summarised as follows:

1- to obtain an accurate estimate of the time needed for students to complete the questionnaire items (see section 4.11.1);

2- to check the intelligibility of wording of statements from the respondents' point of view, including the accuracy of the translation;

3- to provide an opportunity for the researcher to elicit any suggestions which may be put forward by the students through responses to open questions;

4- to test the reliability of the instruments (Achievement Motivation and Attitude toward IRS, AL, EL) and (Classroom Environment, Teaching Methods and Teaching Aids in IRS, AL, EL) that would be used in the main study, and if necessary to increase reliability by identifying and removing any weak items;

5- to investigate any difficulties of administration which may arise during the conduct of the pilot study in order to take steps to minimise them in the main study.

Accordingly, a pilot study was carried out to test the AMACT questionnaire. Because of the size of the questionnaire, which contained 129 items, the pilot study was carried out in two parts. The first part of the pilot study, carried out in Taif City from 25. 11. 1995 to 29. 11. 1995, tested the Achievement Motivation and Attitude scales, while the second part, carried out in the same city, from 25. 02. 1996 to 28. 02. 1996, tested the Classroom Environment, Teaching Method and Teaching Aids scales.

4.10 The Pilot Study Sample

The pilot study sample was split into two parts because of the size of the questionnaires, which contained one hundred and ninety-two items covering Achievement Motivation, Attitude, Classroom Environment, Teaching Methods and Teaching Aids.

In selecting the pilot study sample, a cluster sampling method was applied. The first part of the pilot study which referred to the Achievement Motivation and Attitude toward scales were distributed to four third-year classes randomly selected from a total of seven in Al-Faisal Secondary school. The school itself was selected at random from the eight secondary schools in Taif, the city in which the main study was to be conducted. The sample for the second part of the questionnaire was drawn from two other schools, Al-Taif and Thagif, selected at random from the eight secondary schools in the same city. Two third-year classes were randomly selected from each of these schools by using odd numbers from a list of five classes in each situation. This sample was used to pilot the Classroom Environment, Teaching Methods and Teaching Aids scales. The three secondary schools in which pilot testing was carried out, were among those to be visited later for the main study (which would investigate all the secondary schools in Taif). Third-year classes were chosen for the pilot, as for the main study, because students at this age would have extensive experience of IRS and AL lessons, as well as several years' experience of EL (which is not taught in primary schools). Moreover, it is at this stage that students take a national examination, through which their academic achievement is measured.

4.11 Piloting the Student Questionnaire

This section outlines the procedures used in piloting the student questionnaire. The outcome of the reliability testing is then considered

4.11.1. Data Collection Procedure

The data collection procedures were as follows:

The first questionnaire was sent by post to one teacher in Al-Faisal Secondary school who taught Arabic Language to administer it and act as the researcher's agent in questionnaire distribution. The actual administration of the questionnaire in the four classes (113 students) with the permission of the head teacher of the school, carried out by the IRS, AL and EL subject teachers during normal timetabled lesson periods over a period of four days. During the completion of the questionnaire, the students were closely observed by two teachers, to ensure that they recorded their views independently, without collaboration.

The second questionnaire was given to 105 students from four classes in two schools. These students received the questionnaire from the researcher in association with one teacher who was teaching IRS, AL or EL at one time during a four-day period. As in the case of part one of the questionnaire, students' completion of the questionnaire was overseen by two observers, in this case, the researcher and the subject-teacher concerned.

In each session, the purpose of the questionnaires was explained to the students and they were told how to record their answers. The first questionnaire was completed within thirty-five minutes, while the second one was handed in after forty-five minutes. Each student was asked to state his name and school. This information was needed to enable the researcher to practise the procedure for identifying the academic achievement of the

individual students with reference to the three subjects (though as indicated earlier, the achievement scores were not available at the time of the pilot study, due to the timing of the examination). No problems or misunderstandings were noticed, and teachers made no comments about difficulties in the questionnaire or its administration.

The questionnaires were returned after completion. The response rate was 100% and all the questionnaires were filled out in full, i.e. there were no missing item responses.

4.11.2. Reliability

According to Sekaran (1992) the reliability of a measure refers to the stability, consistency and accuracy with which the instrument is measuring the concept it is intended to measure.

Internal consistency is an approach to estimating test score reliability in which the individual items of the test are examined (Borg & Gall, 1996). The various methods available for estimating a test's internal consistency involve an analysis of scores from a sample of individuals on one administration of the test. One method of estimating internal consistency involves calculating a split-half correlation coefficient, called the coefficient of internal consistency. Another is the method of rational equivalence. Cronbach's Coefficient Alpha (α) is a general form that can be used when items on a measure are not scored dichotomously (Borg & Gall, 1996). Cronbach's alpha is widely regarded as a good index of inter-item consistency reliability and its use for computing test score reliability is widespread (Gall and Borg 1996; Sekaran, 1992).

Alpha reliability coefficients can vary between values of .00 and 1.00, with 1.00 indicating perfect reliability of the test score, and .00 indicating no reliability. According to Borg & Gall (1996), reliability scores of .80 or higher are acceptable for most research purposes. Similarly, Sekaran (1992) suggested that values of .80 or over

give the researcher reasonable confidence that the measures are reliable, with minimal error caused by wording, ordering or other factors. Al-Gharib (1985) reported a view that average alphas of at least .75 provide good evidence of the internal consistency. Moore (1995) noted that values depend on the nature of the instrument; in published studies cognitive tests often have reliability values of 0.90 and higher; personality tests are around 0.80; attitude scales are reported with values of 0.70 and lower.

In the light of these comments, the procedure for testing reliability in the current study was to calculate Cronbach's alpha. It is also possible to display the value of alpha with each item omitted in turn, i.e. for each of the scales of (n-1) items. Reliability can be maximised by dropping items, the removal of which increases the alpha value for the measure or scale in question.

The general principle adopted in the pilot study was to consider for deletion, items with item total correlations lower than .35, if the correlation was low for all three subjects, IRS, AL and EL. However, in cases where the correlations were low only for one or two of the three subjects, the item concerned was retained, as to remove items from the questionnaire for some subjects but not others, might defeat the comparative purpose of the study. Such items could be reconsidered at the main fieldwork stage.

Reliability testing of the Achievement Motivation, Attitude, Classroom Environment and Teaching Methods scales of the AMACT questionnaire is discussed below.

4.11.2.1 Reliability of Achievement Motivation Scale

It was found that the alpha reliabilities for the complete scales IRS, AL and EL were 0.59, 0.76 and 0.72 respectively (Table 4.7).

No.	Statement	Correlation			Alpha if item deleted		
		IRS	AL	EL	IRS	AL	EL
1	I always try hard in (IRS)* no matter how difficult the work.	.31	.55	.50	.5666	.7240	.6838
2	When I fail in (IRS) that makes me try that much harder.	.20	.36	.53	.5853	.7448	.6790
3	I don't try to do my best in (IRS).	.45	.48	.45	.5380	.7302	.6846
4	I try hard to do well in (IRS).	.26	.60	.57	.5781	.7239	.6782
5	When I do something in (IRS), I usually plan carefully.	.37	.63	.54	.5540	.7155	.6717
6	When I start a new project in (IRS), I often don't finish it.	.34	.37	.20	.6078	.7427	.7187
7	When I do well in (IRS), it is because I work hard.	.05	.49	.33	.6078	.7299	.7025
8	**When I do well in (IRS), it is because I am lucky.**	**-.35**	**-.45**	**-.32**	**.6769**	**.8199**	**.7651**
9	When I have a hard problem in (IRS) Usually keep trying to solve it.	.47	.47	.61	.5304	.7340	.6632
10	I don't think about the ideas, which I learn, in (IRS).	.43	.47	.31	.5432	.7312	.7034
11	What I learn in (IRS) helps me in other subjects.	.32	.37	.33	.5608	.7417	.7015
12	I don't find any benefit for (IRS).	.27	.41	.30	.5723	.7379	.7049
13	**When I have a homework to in (IRS), I do it immediately.**	**.03**	**.13**	**.07**	**.6377**	**.7678**	**.7395**
14	(IRS) is one of the most interesting subjects in our curriculum.	.35	.51	.32	.5558	.7263	.7037
T	**Total**				**.59**	**.76**	**.72**

* AL and EL are substituted for IRS.

Table 4.7 alpha if item deleted for achievement motivation scale for the three teaching subjects (N=113).

It can be seen from the item-total correlations that Item 8 has a low correlation value for all three academic subjects (-.35, -.45 and -.32). This might be because Item 8 is complementary to Item 7. Item 13 also has a low scale-item correlation for all three academic subjects (.03, .13 and .07). The alpha if item deleted values given in Table (4.7) indicated that if items 8 and 13 are omitted, the scale reliability in the three teaching subjects IRS, AL and EL increases.

However, it does not increase markedly if any other item is deleted. Therefore, Items 8 and 13 were deleted. This gave new reliability values for the (now 12-item) scale of .72, .83 and .79 for IRS, AL and EL respectively and the correlation between the scale-total

and individual items also increased (see Appendix 2). Consequently, these 12 items were considered to provide a scale giving reliable measure of achievement motivation in the three teaching subjects.

4.11.2.2 Reliability of Attitude Scale

The alpha reliabilities for attitude toward the three subjects (IRS, AL, EL) measured by the proposed 14-item scale were found to be 0.79, 0.79 and 0.85 respectively, as shown in Table 4.8.

No	Statement	Correlation			Alpha if item deleted		
		IRS	AL	EL	IRS	AL	EL
1	We learn about important things in IRS)*.	.30	.47	.41	.7909	.8355	.7742
2	We cover interesting topics in (IRS).	.31	.44	.27	.7914	.8377	.7854
3	I don't like our (IRS) textbook.	.42	.60	.30	.7816	.8271	.7813
4	I have a good feeling toward IRS).	.55	.63	.45	.7712	.8256	.7678
5	I don't enjoy (IRS) classes.	.45	.61	.34	.7790	.8273	.7783
6	I really like (IRS).	.57	.65	.56	.7709	.8234	.7610
7	**I would not enjoy being an (IRS) teacher.**	**.22**	**.13**	**.22**	**.8017**	**.8578**	**.7929**
8	I think (IRS) teachers are neat people.	.41	.22	.55	.7829	.8480	.7616
9	Everyone should learn about (IRS) in school.	.30	.41	.30	.7911	.8354	.7810
10	My (IRS) teacher encourages me to learn more about Islam.	.51	.58	.62	.7743	.8298	.7569
11	I don't enjoy talking to my (IRS) teacher after class.	.45	.49	.33	.7790	.8346	.7799
12	My (IRS) teacher makes good plans for us.	.43	.53	.52	.7806	.8318	.7609
13	Sometimes my (IRS) teacher makes me feel dum	.40	.41	.34	.7835	.8395	.7775
14	IRS) teachers can be trusted and depended upon.	.51	.53	.53	.7751	.8331	.7615
T	**Total**				**.79**	**.84**	**.79**

* AL and EL are substituted for IRS.
Table 4.8 Alpha if item deleted for the attitude scale in three teaching subjects (N=113).

Looking at the correlations between the items, it can be said that most items have a good correlation. Item 7 has a rather low correlation in the three teaching subjects (.22, .13 and .22 respectively). Therefore, according to the criteria indicated earlier, the item should be considered for omission. However, the alpha if item deleted values given in the table show that if the item is omitted, the scale reliability increases only marginally in the three teaching subjects (IRS, AL and EL) and the alpha reliability for the whole scale in the three teaching subjects is already moderately high. Therefore, the researcher decided to keep this item, pending observation in the main study, because it measures an

important aspect of the attitude in this study. Certain other items (e.g. 2, 8, 9) had low correlations for some subjects but better correlations for others, and alpha if item deleted indicates that their removal would change the reliability only very slightly, if at all. Therefore, it was decided that it was not necessary to delete any item from the scale. The items were acceptably homogeneous, at least to go forward.

4.11.2.3 Reliability of Classroom Environment Scale

This scale originally consisted of two separate sub-scales for **personalisation** and **participation**, as indicated earlier, but were put together as one scale representing Classroom Environment, since all of them related to one part of the classroom environment. The pilot study provided an opportunity to test the homogeneity of this composite scale.

When alpha reliabilities were calculated for the two subscales separately, for each academic subject, IRS, AL and EL the same pattern emerged: alphas were very low for Participation (.29, .39 and .33 for IRS, AL and EL respectively) but high for Personalisation (.62, .70 and .72) – see Appendix 2.

The alpha reliabilities for the whole scale of classroom environment for the three teaching subjects (IRS, AL, EL) were 0.48, 0.60 and 0.56 respectively. These are relatively low values, particularly for IRS (see Table 4.9), though they are higher than for the Participation subscale alone.

No.	Statements	Correlation			Alpha if item deleted		
		IRS	AL	EL	IRS	AL	EL
1	The *IRS teacher helps each student who is having difficulties in understanding the lesson	.43	.49	.45	.4069	.5425	.5214
2	Students discuss the theme of the IRS lesson	.28	.50	.40	.4311	.5386	.5222
3	**The IRS teacher lectures without students asking or answering questions.**	**.26**	**.30**	**.22**	**.5641**	**.6878**	**.6071**
4	The IRS teacher uses tests to find out where each student needs help.	.11	.36	.43	.4855	.5574	.5126
5	**Students sit and listen to the IRS teacher.**	**.02**	**.06**	**.17**	**.4952**	**.6148**	**.5549**
6	**Students ask the IRS teacher questions.**	**.32**	**.17**	**.19**	**.5244**	**.5959**	**.7067**
7	The IRS teacher tries to find out what each student wants to learn about.	.38	.35	.45	.3994	.5626	.5131
8	Most students take part in discussion IRS lesson.	.31	.35	.49	.4241	.5633	.5008
9	**The IRS teacher talks rather than listens.**	**.23**	**.00**	**.01**	**.5804**	**.6410**	**.5855**
10	Students are encouraged to be considerate of other people's ideas and feelings in IRS lesson.	.40	.43	.43	.3921	.5451	.5142
11	Students are asked questions in IRS lesson.	.21	.20	.39	.4517	.5908	.5294
12	There is classroom discussion in IRS lesson	.36	.38	.46	.4265	.5634	.5193
13	Students are allowed to give their opinion during discussion in the IRS lesson.	.23	.49	.34	.4455	.5307	.5313
T	**Total**				**.48**	**.60**	**.56**

* AL and EL are substituted for IRS.

Table 4.9 Alpha if item deleted for the classroom environment scale in three teaching subjects (N= 105)

The correlation between items values given in Table 4.9 show that Items 3, 5, 6 and 9 have low correlations in all three teaching subjects (IRS, AL and EL). This may be due to the similarity of the four items: Item 3 focused on the teacher lecturing without students asking or answering questions, Item 5 was concerned with students listening to the teacher, item 6 was about students asking questions and Item 9 focused on the teacher talking throughout the lesson. Thus, it seems that only one of these items was needed to cover this aspect.

It was found that, in the case of IRS and AL, a significant increase in scale reliability was achieved by the deletion of two items, numbers 3 and 9. Their deletion raised the scale reliability to 0.65 in case of IRS and 0.73 for AL . In the case of EL, scale reliability was increased to 0.83 if Items 3, 6 and 9 were deleted. However, deletion of Item 6 brought little improvement in scale reliability for IRS, and actually decreased reliability slightly for AL. Similarly, deletion of Item 5 decreased reliability for EL and

increased it only slightly for IRS and AL. Consequently, Items 3 and 9, the deletion of which increased reliability for all three scales, were deleted, but Items 5 and 6 were retained.

On the basis of these calculations, it can be said that the bringing together of two subscales, Participation and Personalisation, to create a single Classroom Environment scale is justified. The scale reliability for the two scales combined is considerably higher than for Participation alone and, after improving reliability by deleting certain items, the composite scale also has slightly higher reliability values than the Personalisation subscale taken separately.

4.11.2.4 Reliability of Teaching Methods Scale

The frequencies and percentages of responses regarding teaching methods used in lessons of IRS, AL and EL are shown in Table 4.10.

Statement		IRS		AL		EL	
		F	%	F	%	F	%
- The (IRS) teacher mostly uses talk as means communication to the students	Yes	87	82.9	69	65.7	65	61.9
	No	19	17.1	36	34.3	40	38.1
- The (IRS) teacher frequently dictates from his notes,	Yes	30	28.6	29	27.6	36	34.3
	No	75	71.4	76	72.4	69	65.7
- The (IRS) teacher asks questions to the students.	Yes	101	96.2	93	88.6	91	86.7
	No	4	3.8	12	11.4	14	13.3
- The (IRS) teacher allows students to exchange ideas through class discussion	Yes	88	83.8	78	74.3	76	72.4
	No	17	16.2	27	25.7	29	27.6
- The (IRS) teacher gives students direct experience of practical situation	Yes	88	83.8	66	62.9	71	67.6
	No	17	16.2	39	37.1	34	32.4
- The (IRS) teacher helps students in problem-solving	Yes	94	89.5	80	76.2	96	91.4
	No	11	10.5	25	23.8	9	8.6
- The (IRS) teacher sets up individual programme for students.	Yes	23	21.9	31	29.5	71	67.6
	No	82	78.1	74	70.5	34	32.4
- The (IRS) teacher uses group work to acquire skills of inquiry.	Yes	18	17.1	23	21.9	32	30.5
	No	87	82.9	82	78.1	73	69.5

* AL and EL are substituted for IRS.

Table 4.10 Frequencies and percentages of responses regarding teaching methods in three teaching subjects (N = 105).

The items in this section were intended to reflect four main teaching approaches, one pair of items for each approach. However, the table reveals many instances of contradictory results for each item of a pair. For example, Item 1, reflecting the Lecture method, received a relatively high proportion (62-83%) of 'Yes' answers, whereas for Item 2, reflecting the same method, the pattern was reversed, with three quarters of the responses for IRS and AL, and almost as many for EL, in the 'No' category. The discrepancies were not so marked for other pairs of items, except for Items 7 and 8 in the case of EL. Nonetheless, they are sufficient to raise doubt as to whether the pairs of items reflect the different teaching approaches in the manner intended, and the ability of the section to yield meaningful information. Therefore, it was decided to delete the Teaching Methods section.

4.11.3 Analysis of Teaching Aids Scale

The Teaching Aids scale was analysed by using frequency and percentages in order to determine which teaching aids it would be most useful to include in the main study. Table 4.11 shows the extent to which, in the Pilot Study, various Teaching Aids were reported to be available and used in schools.

Teaching Aids	IRS		AL		EL	
	F	%	F	%	F	%
1- boards	91	87	102	97	100	95
2- charts	23	22	56	53	93	89
3- models	9	7	16	15	39	37
4- overhead projector	5	5	2	2	12	11
5- slide projector	3	3	2	2	10	10
6- filmstrip projector	4	4	2	2	15	14
7- the video tape recorder	1	1	0	0	19	18
8- radio	3	3	3	3	13	12
9- educational TV	6	6	7	7	15	14
10- tape recorder	40	38	5	5	89	85
11- computer	4	4	5	5	14	13
12- newspaper	4	4	14	13	12	11
13- magazine	5	5	10	10	14	13
14- libraries	24	23	36	34	14	13
15- language laboratory	3	3	15	14	25	24

* AL and EL are substituted for IRS.

Table 4.11 Descriptive statistical of frequency (F) and percentage (%) for the items of teaching aids scale in the three subjects N=105)

Table 4.11 is divided into three parts (one for each subject). It indicates that charts, model, tape recorder and language laboratory have a moderate frequency of use in IRS, AL and EL. As shown in the table, boards were by far the most used teaching aids, with high frequency of 91, 102 and 100 (87, 97 and 95%) for three subjects. For most other teaching aids, i.e. overhead projector, slide projector, filmstrip projector, video tape recorder, radio, educational TV, computer, newspaper and magazine, reported use was very low. This result seems similar to the result of content validity in this scale (see section 4.6.4).

Since boards were so widely used, there seemed to be no need to seek further verification of their use in the main study. At the other end of the scale, reported availability and use of some aids was so low that it seemed likely that most schools do not have them. Again, there would be little point in including them in the main study.

Hence the five teaching aids: charts, models, tape recorder, libraries and language laboratory were selected for inclusion in the main study, whilst the teaching aids with the highest and lowest frequencies were deleted.

4.12 Piloting of Teacher Interview Schedule

This section discusses the piloting of the questions for the teacher interviews and addresses the issue of the reliability of the interview procedure.

4.12.1. Pilot Interview Procedure

For the pilot study, the researcher selected three secondary school teachers, one each for the three subjects, IRS, AL and EL.

At the start of the interview, the researcher explained to them the purpose of the study and emphasised that their opinion would be helping the study of IRS, AL and EL subjects. Cohen and Manion (1995) reported that it is important to remind the respondents that his/her point of view is vital to understand the whole picture.

Interviewees were given freedom to answer the questions at whatever length and degree of detail they wished, and to raise other issues if they so desired, so that the researcher could assess whether the interview schedule was sufficiently comprehensive or whether other items might need to be added.

4.12.2 Reliability of the Interviews

To establish the reliability of the interview procedure, the following steps were undertaken:

- The researcher obtained permission from the interviewee to allow him to record their conversation.
- After finishing the interview the researcher played back the tapes and wrote a transcript of each conversation.
- The tapes were given to a colleague, who was asked to listen to them and write his own transcript.
- The two transcripts were compared by both the researcher and his colleague.

- The researcher and his colleague agreed that any slight differences that were found did not change the meaning or interpretation of the transcripts. This high degree of agreement indicated that the researcher could have confidence in the reliability of the interviews and transcription.

4.13 Construction of Teachers' Questionnaire

The responses to the semi-structured interview schedule, obtained in the pilot study, were subjected to content analysis, from which a range of possible answers to the questions were extracted. In the main study, those teachers who could not be interviewed would be asked the same basic questions as in the interview schedule but to save time, the questions would be posed in the form of a questionnaire, with multiple choice response options being offered, based on the content analysis of the pilot interviews.

4.13.1 Content Analysis of Pilot Interviews

The researcher at this stage was concerned with the quality of the data, not the quantity; in other words, what kind of answers were given, rather than by how many people they were given. Therefore, the researcher analysed the interviews as follows:

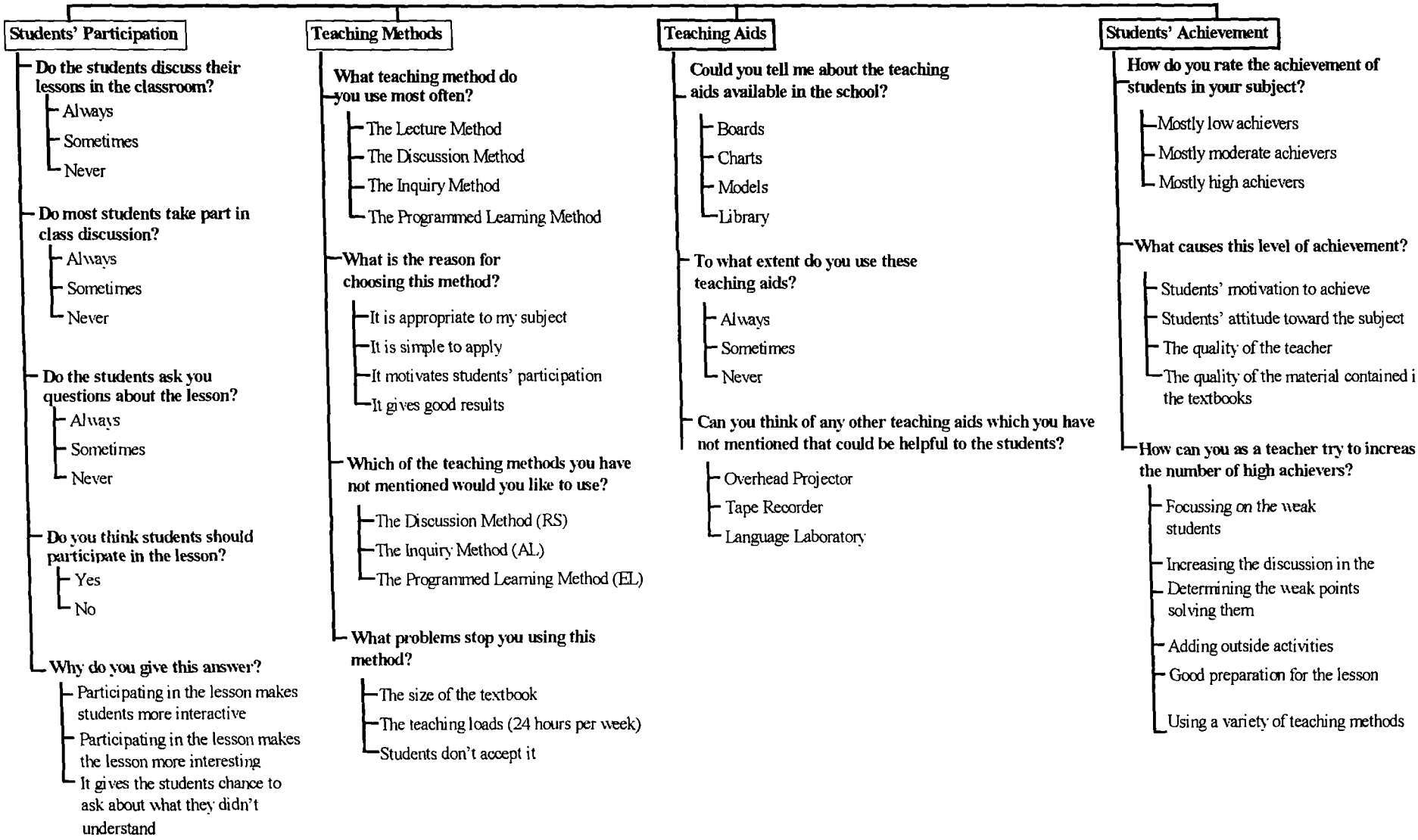
- When the first interview, with the IRS teacher, was conducted, all the points made by the teacher were listed in a table.
- After the second interview, with the AL teacher, any points raised, which had not been mentioned by the first interviewee, were added to the list. Where the AL teacher repeated a point made by the IRS teacher, a tick was placed against that item.
- The same procedure was carried out for the third interview, with the EL teacher. The outcome was a table listing all the points made in the three interviews, with ticks alongside each item, to show by which teachers it had been mentioned (see Table 4.12).

Statement	IRS	AL	EL
- Most students are moderate achievers	/	/	
- the quality of the material contained in the textbook suits this level	/	/	
- students don't have motivation to achieve.	/		/
- to increase the number of higher achievers I increase the discussion	/		/
- to increase the number of higher achievers I determine weaknesses and solve them	/		/
- to increase the number of higher achievers I concentrate on the weak students	/		
- the Teaching Aids available in the school are boards, library, charts and some models.	/		/
- sometime I use these Teaching Aids	/	/	/
- I think video tape recorder would be useful in my subject	/		
- Lecture method is used most often	/		
- the reason for choosing this method , it is appropriate to my subject	/		
- the reason for choosing this method , it is simple to apply	/		
- I would like to use discussion method much more	/		
- discussion method motivates the students to achieve and to understand well	/		
- the size of the textbook stops me using it more often	/		
- students sometime discuss their lesson in the classroom	/		
- most students never take part in class discussion	/		
- students sometimes ask questions about the lessons	/		
- I think students should participate in the lessons	/	/	/
- participating in the lessons make students more interactive	/	/	
- students don't have a good attitude toward Arabic Language		/	
- to increase the number of higher achiever I add outside activities		/	
- to increase the number of higher achiever s I use Teaching Aids		/	
- I think overhead projector is useful to use in my subject		/	
- discussion method is used most often		/	/
- the reason for choosing this method , it is appropriate to my subject		/	/
- the reason for choosing this method , it is gives good result		/	
- I would like to use the inquiry method much more		/	
- inquiry method motivates the students to achieve		/	
- the teaching load (24 hours per week) stops me using it more		/	/
- students always discuss their lesson in the classroom		/	/
- most students sometimes take part in class discussion		/	/
- participation makes the lesson more interesting		/	/
- Most students are low achievers			/
- to increase the number of higher achiever good preparation for the lesson should be done			/
- to increase the number of higher achievers, various teaching methods should be used			/
- I think Language Laboratory is very important to use in my subject			/
- the reason for choosing the discussion method is that it motivates student participation			/
- I would like to use programmed learning method much more			/
- the reason for choosing this method , it is appropriate to my subject			/
- participating in the lessons gives the students chance to ask about what they didn't understand.			/

Table 4.12 Responses obtained in pilot interviews.

Table 4.12 shows that the interviewees covered all the questions in the interview schedule. Their responses helped the researcher to design the teacher questionnaire. Figure 4.1 shows how the answers given in the pilot interviews were grouped in relation to the questions of the interview schedule, to generate a set of multiple choice response options for each question.

Figure 4.1 Design of Teacher Questionnaire



It was recognised that the three teachers interviewed would not necessarily reflect all possible views in relation to the interview questions. However, it was thought that their answers provided a range of likely responses which would provide a good starting point for the teacher questionnaire and allow opinions on these topics to be tested quickly. It would also facilitate the researcher's analysis. However, to cater for the possibility that respondents might have other experiences or views not covered by the response options offered, an additional option, Other (specify), was added to each question. In this way, a balance was struck between the opportunity of closed and open questions (see Appendix 4).

4.14 Summary

This chapter started with an account of some of the considerations that had to be borne in mind when selecting the research design for this study. The chosen methods were considered in some depth, highlighting their strengths and drawbacks.

Items used in the construction of the students' Achievement Motivation and Attitude questionnaire were for the most part adapted from a number of existing scales, and have been widely used to measure the achievement motivation and attitude of students in secondary schools. The questionnaire scales were checked for validity by a panel of expert referees, and translated into Arabic. Arrangements were made to obtain access to students' examination results in IRS, AL and EL, to give a measure of academic achievement in relation to which the questionnaire responses could be analysed. A semi-structured interview schedule was also constructed, to obtain subject teachers' ideas about students' achievement and factors affecting it.

After this process, the instruments were pilot-tested in the field to identify whether there were any major flaws in the study plan (Runkel and McGrath, 1972), so they could be corrected before the main study. The student questionnaire was piloted in three secondary schools in Taif. This sample satisfied the same criteria as those in the main study. No problems of administration or wording were revealed. On the basis of the results obtained, certain items were deleted to improve the internal consistency (Cronbach's alpha) of the scales, though most items were acceptably homogenous. However, one complete section, concerned with teaching methods, was deleted. The outcome of these measures was a reliable set of scales for collecting data in the main study.

The interview schedule was piloted with three teachers, one for each academic subject involved in the study, and the reliability of the interview procedure was checked by

comparing the researcher's transcriptions with those made by a colleague. On the basis of content analysis of the responses, the researcher was able to identify sets of response options to offer in a multiple choice questionnaire based on the original interview schedule. This instrument provided a means of obtaining information and opinions from teachers who, because of time and resource constraints, could not be interviewed for the main study.

Thus, through the procedures described in this chapter, three instruments were developed which the researcher felt could be used with confidence in the main study. The final versions of the AMACT questionnaire and the teacher questionnaire can be seen in Appendices 3 and 4 respectively.

CHAPTER FIVE

DATA COLLECTION IN THE MAIN STUDY

5.1 Introduction

5.2 Research Questions

5.3 Data Analysis Techniques

5.4 The Target Population

5.5 Sample Selection
- 5.5.1 The Student Sample
- 5.5.2 The Teachers' Interview Sample
- 5.5.3 The Teachers' Questionnaire Sample

5.6 Methodology
- 5.6.1 Administration of Students' Questionnaire
- 5.6.2 Conduct of Interviews
- 5.6.3 Administration of Teachers' Questionnaire
- 5.6.4 Obtaining Students' Academic Achievement Data

5.7 Data preparation

5.8 Reliability of the Instruments as used with the Main Sample
- 5.8.1 Reliability of Achievement Motivation Scale
- 5.8.2 Reliability of Attitude Scale
- 5.8.3 Reliability of Classroom Environment Scale
- 5.8.4 Reliability of the Academic Achievement Tests

5.9 Content Analysis of the Academic Achievement Tests

5.10 Summary

Chapter Five

Data Collection in the Main Study

5.1 Introduction

This chapter describes the procedures used in carrying out the main fieldwork in Taif, Saudi Arabia. First, the study questions are set out and linked to appropriate statistical techniques. The target population and sample selection are then described, and the procedures for collecting and preparing the data are explained. Confirmation is provided of the reliability of the AMACT questionnaire. Finally, the reliability and content validity of the Third Year Examinations in IRS, AL and EL are discussed and their appropriateness as measures of Academic Achievement in this study is assessed.

5.2 Research Questions

This study sought to address five main questions:

1. What is the level of students' scores on the study variables, Academic Achievement, Achievement Motivation, Attitude Toward, Classroom Environment and Teaching Aids in each of the three academic subjects, Islamic Religious Science, Arabic Language and English Language?
2. Are there any differences among students of the three subjects, in scores on the study variables?
3. Are there any significant correlations between the study variables, Academic Achievement, Achievement Motivation, Attitude Toward, Classroom Environment and Teaching Aids, in each of the three subjects, Islamic Religious Science, Arabic Language and English Language?
4. What are teachers' opinions on students' achievement and participation and on the use of teaching aids and teaching methods in the teaching of Islamic Religious

Science, Arabic Language and English Language and are their perceptions of Teaching Aids, Teaching Methods and Participation related to their perceptions of Academic Achievement?

5. What are teachers' beliefs as to the relationship between student Academic Achievement and such factors as Achievement Motivation, Attitude toward Subjects, the Quality of the Teacher, and the Quality of textbook content(Quality of the Book), and are such beliefs significantly related to teachers' perceptions of student Academic Achievement?

Each of these questions is divided into several sub-questions (see Appendix 5)

5.3 Data Analysis Techniques

Due to the nature and the scope of the present investigation, it was decided to use the following statistical techniques:

- Descriptive statistics (frequencies and percentages of responses) were computed to answer Questions one and four, and as part of a first step in the analysis related to the other questions.
- Correlation was used to obtain the correlation matrix of the study variables. It was used to investigate Question three.
- T-Test was performed in the present investigation to determine whether students differed in Academic Achievement, Achievement Motivation, Attitude toward academic subjects, Classroom Environment and Teaching Aids, according to this technique. These analyses were used to test Question two.
- Chi Square (x^2) was used to test for correlation between teachers' perceptions of their students as high moderate or low achievers, and their beliefs as to the existence of a relationship between Academic Achievement and certain affective environmental variables. It was also used to investigate the possibility of a relationship between teachers' perceptions of student ability and their perceptions of

students' participation in lessons, or of their own use of varied teaching methods or teaching aids. The outcomes of these analyses helped to answer Question five.

- ANOVA Analysis of Variance was used in the investigation of Question five, to test for significant differences in responses among teachers of the three academic subjects, Islamic Religious Science, Arabic Language and English Language.

- The level of significance was set at the .05 level.

5.4 The Target Population

It is important to define the target population clearly and precisely to ensure an appropriate and representative sample. Borg and Gall (1996) pointed out that the target population includes all the members of a real or hypothetical set of people, events, or objects to which researchers wish to generalise the results of their research. In the same way, Ary et al (1990) defined the population as all members of any well-defined set of people, events, or objects.

The target population of this study consisted of all the third year students of the secondary schools in the Kingdom of Saudi Arabia; also, all IRS, AL and EL teachers of the secondary schools in Kingdom of Saudi Arabia.

5.5 Sample Selection

It was not feasible to study the whole target population because of the time, efforts and cost that would be involved. So it was necessary for the researcher to limit the study to a representative sample. A carefully chosen sample enables the researcher to generalise the finding to the larger population. In this study, the sample needed to be representative of the whole population of the third year of secondary school, and their IRS, AL and EL teachers. The means by which this was achieved are explained below.

5.5.1 The Student Sample

Because of the difficulty of studying the whole target population and the limited time available, the researcher selected the Educational Directorate (district) of Taif. The number of students in the third year of secondary schools in Taif is 1,400, while the numbers of teachers of IRS, AL and EL are 57, 54, and 39 respectively. The researcher chose Taif for reasons of convenience; his residing there and knowing most of the headteachers and teachers in the local schools there facilitated co-operation with them. However, although Taif was chosen for convenience, it may be regarded as reasonably representative of schools in KSA, for a number of reasons:

- Information from the schools shows that they catered for a wide spectrum of social classes and backgrounds.
- Schools in Taif, as in other Saudi cities, take in large numbers of students from the surrounding rural areas, where there are few secondary schools.
- There is a high level of homogeneity in Saudi schools because the education system in Saudi Arabia is centrally controlled and standardised. Students in the third year of secondary school throughout the country study the same curriculum, and the organisation of schools, timetable and subjects are the same.
- The final examination is set by the Ministry of Education and taken by all third year students in the secondary schools in the Kingdom of Saudi Arabia under the Educational Directorate's supervision.
- The teachers in these schools are the product of a standard training system, teaching to the same guidelines and using the same textbooks.

Therefore, the results obtained within selected schools in one directorate should be generalizable to Saudi Arabia generally.

To obtain a sufficiently large sample, a combination of cluster and stratified sampling was used in this study. Cluster sampling involves the sampling of clusters of units, rather than individual units. If, for example, all the pupils within one school were chosen for a test rather than taking a sample of ten pupils from each of 50 schools, this would be a case of cluster sampling. Some unbiased method should be used for the choice of the school itself.

Stratified sampling is used in circumstances when the target population contains various groups or classes; so the population is divided into two or more sub-populations, called strata, and members are selected from each stratum (Wiersma, 1980).

There are 13 Secondary schools in Taif. Five of these were not included in the sample; some of them because they were private schools or schools offering a specialist curriculum (they are not General Secondary Schools). They could therefore not be considered representative of Saudi secondary schools generally. All the remaining schools were included and all third year classes from each school were surveyed. In this sense, the sample was a cluster sample. The sample was then stratified, for analysis purposes, by section (see Chapter 2 for an explanation of the divisions within Saudi secondary schools) and by academic subjects, i.e. IRS + AL and IRS + EL.

Families of higher socio-economic status were, according to the schools, particularly well represented in Thaqief, Al-Faisal, Hawazin, and Al-Qud, while Al-Taif, Al-Emam Malik, and Al-Hodaibyiah had children of poor families. Hawazin secondary school tends to have the children of educated parents, while Okaz, Al-Hodaibyiah and Al-Emam Malik secondary schools have, on the whole, pupils from less educated families, including many rural children.

The table below shows the distribution of classes by school, section (Science or IRS & AL) and academic subjects (Table 5.1).

No	School Name	Science Section		IRS & AL Section		Total
		IRS+AL	IRS+EL	IRS+AL	IRS+EL	
1	Thaqief	3	3	2	2	10
2	AL-Faisal	3	3	2	2	10
3	Hawazin	2	2	1	1	6
4	AL-Taif	2	2	1	1	6
5	Okaz	2	2	2	2	8
6	AL-Emam Malik	2	2	2	2	8
7	AL-Quds	2	2	1	1	6
8	AL-Hodaibyiah	1	1	1	1	4
	Total	17	17	12	12	58

Table 5. 1 Number and distribution of classes by school, section (Science or IRS & AL) and academic subjects.

It can be seen from the table that Science section classes outnumbered those in the IRS & AL section. However, within each section, the numbers of IRS + AL and IRS + EL classes were equal, not only overall, but at the level of the individual school.

The sample targeted for this study was all final year students in the disciplines of IRS, AL and EL from the 8 selected secondary schools in the city of Taif in the Kingdom of Saudi Arabia, some 1,400 in number. The number of returned forms was 1,349 (Table 5.2).

No	School Name	Science Section		IRS&AL Section		Total
		IRS+AL	IRS+EL	IRS+AL	IRS+EL	
1	Thaqief	90	82	46	50	268
2	AL-Faisal	76	75	57	57	265
3	Hawazin	50	51	24	23	148
4	AL-Taif	46	47	23	26	142
5	Okaz	32	35	42	45	154
6	AL-Emam Malik	37	40	52	49	178
7	AL-Quds	41	44	15	16	116
8	AL-Hodaibyiah	24	20	14	20	78
	Total	396	394	273	286	1349

Table 5. 2 Number and distribution of student sample by school, section (Science or IRS & AL) and subjects.

105 (9% of the total number returned) forms had to be discarded because they were incomplete. Although every effort was exerted to ensure response, a number of returned questionnaires were incomplete and were eliminated from the analysis. Nevertheless, 1,224 usable responses were obtained, a response rate of 87%. For details of the responses, see Table 5.3

No	School Name	Science Section		IRS&AL Section		Total
		IRS+AL	IRS+EL	IRS+AL	IRS+EL	
1	Thaqief	89	80	37	47	253
2	AL-Faisal	67	63	49	48	227
3	Hawazin	37	40	23	22	122
4	AL-Taif	46	45	23	23	142
5	Okaz	32	35	42	44	153
6	AL-Emam Malik	37	40	52	48	177
7	AL-Quds	28	34	15	14	91
8	AL-Hodaibyiah	22	17	10	15	64
	Total	358	354	251	261	1224

Table 5. 3 Number and distribution of complete responses to students' questionnaire by school, section (Science or IRS & AL) and subjects.

The final questionnaire sample therefore consisted of 1,224 male students from the final year of General Secondary Schools in Taif.

5.5.2 The Teachers' Interview Sample

24 of the 142 teachers of third year IRS, AL, and EL in the 8 schools, were selected for interview.

As with the pupils' sample, the teachers' sample was doubly stratified, by school and by subject. The "card" procedure was employed to draw the sample in each school. The researcher wrote onto cards the names of all teachers of IRS in the first school. Then the cards were shuffled and one card was selected. The same procedure was used in selecting AL and EL teachers. The whole process was repeated for each school in turn. In all, three interviewees were chosen from each school, giving a total of 24 teachers, 8 from each subject. The full breakdown of the sample can be seen in (Table 5.4).

No	School Name	No. of teachers			No. of the interview sample			
		IRS	AL	EL	IRS	AL	EL	Total
1	Thaqief	8	8	7	1	1	1	3
2	AL-Faisal	8	7	6	1	1	1	3
3	Hawazin	6	7	5	1	1	1	3
4	AL-Taif	6	6	5	1	1	1	3
5	Okaz	7	5	4	1	1	1	3
6	AL-Emam Malik	6	6	5	1	1	1	3
7	AL-Quds	4	4	3	1	1	1	3
8	AL-Hodaibyiah	8	7	4	1	1	1	3
	Total	53	50	39	8	8	8	24

Table 5. 4 Number and distribution of teachers' interview sample by school and subject.

5.5.3 The Teachers' Questionnaire Sample

As indicated earlier, the 8 schools had 142 teachers of IRS, AL and EL, between them. Once 24 of them had been selected to be interviewed, the remaining 118 were taken as the teachers' questionnaire sample (Table 5.5).

No	School Name	IRS	AL	EL	Total
1	Thaqief	7	7	6	20
2	AL-Faisal	7	6	5	18
3	Hawazin	5	6	4	15
4	AL-Taif	5	6	4	15
5	Okaz	6	5	3	14
6	AL-Emam Malik	5	4	4	13
7	AL-Quds	3	3	2	8
8	AL-Hodaibyiah	6	6	3	15
	Total	44	43	31	118

Table 5. 5 Number and distribution of teachers' questionnaire, by school and subject.

5.6 Methodology

The study was conducted in eight secondary schools for boys in Taif during the period May - August 1996. The researcher was aware of the need to protect individuals' privacy and respect their feelings and rights. Therefore, the researcher addressed these points in this study, as follows:

- Permission was obtained from the researcher's university in Saudi Arabia which contacted the Ministry of Education to exhort the head of the Educational Directorate in Taif to support the researcher and to give full co-operation to the study.
- Permission was obtained also from the Educational Directorate in Taif to request headteachers, teachers and students to co-operate with the researcher (a list of all letters used to gain access for the study is given in Appendix 6).
- The researcher explained the purposes, significance and contribution of the study to the participants (see following section).
- The researcher explained to all participants that all the information would be confidential, with data being aggregated and no individuals identified.

- It was promised that treatment of all the data gathered would be undertaken by the researcher himself and nobody else would see it.

5.6.1 Administration of Students' Questionnaire

The researcher visited the 8 schools to administer the questionnaire in person. First, he introduced himself to the students. After the students had been given the questionnaires, a brief explanation was presented to ensure that they could understand them. The researcher explained that he was trying to find out how the students felt about some school subjects. The researcher told them that their replies to the questionnaires would be treated with the utmost confidence, that neither the teachers nor anybody else would see their answers and that the results would be analysed by computer. It was stressed that the study was in their own interest since it would help them with their own educational problems and also help other students. The researcher explained how to tackle the statement items in the questionnaire, and he told them that they could make any comment in the space left at the end of the questionnaire. Any questions raised were answered. The time taken to fill in the questionnaire was between 35 and 45 minutes. The questionnaires were collected personally by the researcher.

5.6.2 Conduct of Interviews

As has previously been stated, 24 teachers from three subjects IRS, AL and EL were interviewed. Teacher interviews lasted around 50 to 60 minutes each. The interviews were typically conducted in the teacher's room. Twenty of the teachers agreed to be taped while being interviewed. Four did not agree. Where respondents agreed, interviews were tape-recorded to prevent memory lapses. Where respondents did not wish to be recorded, the researcher took notes during the meeting, or immediately after it. The interviews were semi-structured; that is to say, the researcher had a schedule of questions to cover the range of issues that he had chosen to pursue. However, these

were not worked through rigidly; teachers were given as much freedom as possible to discuss the issues in their own way and given only occasional prompts as needed.

All the interviews took place in a relaxed atmosphere and the respondents talked freely without appearing nervous. Each interview was prefaced by an explanation of the purpose of the study, the way it was to be conducted and a request for the interviewee's permission to be recorded. Where interviews were recorded, to ensure that a successful recording had been made, the researcher re-played the tape after each interview. A transcription was made, checked against the recording and any necessary corrections made.

5.6.3 Administration of Teachers' Questionnaire

As explained in Chapter 4, the teachers' questionnaires were based on the key questions of the interview schedule. The difference was that the questionnaire version, unlike the interview, did not call for extended, open responses, but asked respondents to choose among pre-selected multiple-choice response options. The researcher's choice of response options for inclusion in the questionnaire was based on issues emerging from the in-depth interviews, which had been conducted and analysed as part of the pilot study (see section 4.10).

Questionnaires were distributed by the researcher, in person, to 118 teachers. Each questionnaire was accompanied by a covering letter, explaining the purpose of the study. Two weeks were allowed for teachers to complete the questionnaires, after which the researcher collected them in person. 113 copies were returned, a response rate of around 96%. Table 5.6

No	School Name	IRS	AL	EL	Total
1	Thaqief	7	7	6	20
2	AL-Faisal	7	6	5	18
3	Hawazin	5	5	4	14
4	AL-Taif	5	6	4	15
5	Okaz	4	5	3	12
6	AL-Emam Malik	5	4	4	13
7	AL-Quds	3	2	2	7
8	AL-Hodaibyiah	5	6	3	14
	Total	41	41	31	113

Table 5. 6 Number and distribution of teachers' questionnaire responses, by school and subject.

5.6.4 Obtaining Students' Academic Achievement Data

As indicated earlier, students` academic achievement was assessed on the basis of their end–of–year marks in IRS, AL and EL. When the examination papers have been marked, the results go in the first instance to the Educational Directorate. Accordingly, the researcher approached the Directorate with a letter explaining the purpose and nature of the study, and requested a copy of the examination results. This was provided. The researcher was then able to extract the required information, based on the details of schools and students` names obtained at the time of conducting the questionnaire.

5.7 Data preparation

When the questionnaire data had been collected, the researcher started to prepare them for analysis. The data were entered to computer by the researcher and re-checked for entry errors from a print-out. The data were then subjected to analysis using the SPSS - PC+ programme.

5.8 Reliability of the Instruments as used with the Main Sample

This section reports the reliability of the rating instruments used in this study. Although the pilot study results reported in chapter 4 suggested an acceptable level of reliability, the reliabilities of the instruments (AM, AT, CE, TA and AC) when used with the main sample of this study were confirmed to enable the researcher to have confidence in the research outcomes.

5.8.1 Reliability of Achievement Motivation Scale

The item total correlations and alpha-if-item-deleted values obtained for the Achievement Motivation Scale are presented in Table 5.7.

No.	Statement	Correlation			Alpha if item deleted		
		IRS	AL	EL	IRS	AL	EL
1	I always try hard in (IRS)* no matter how difficult the work.	.52	.56	.70	.73	.76	.83
2	When I fail in (IRS) that makes me try that much harder.	.32	.37	.46	.75	.78	.84
3	I don't try to do my best in (IRS).	.44	.45	.55	.73	.77	.84
4	I try hard to do well in (IRS).	.40	.43	.58	.74	.78	.84
5	When I do something in (IRS), I usually plan carefully.	.51	.54	.06	.72	.76	.83
6	When I start a new project in (IRS), I often don't finish it.	.28	.36	.33	.75	.78	.85
7	When I do well in (IRS), it is because I work hard.	.33	.40	.53	.75	.78	.84
8	When I have a hard problem in (IRS) Usually keep trying to solve it.	.44	.43	.59	.73	.78	.83
9	I don't think about the ideas, which I learn, in (IRS).	.38	.39	.54	.74	.78	.84
10	What I learn in (IRS) helps me in other subjects.	.38	.35	.38	.74	.78	.85
11	I don't find any benefit for (IRS).	.35	.47	.55	.74	.77	.84
12	(IRS) is one of the most interesting subjects in our curriculum.	.36	.48	.53	.74	.77	.84
T	**Total**				**.76**	**.80**	**.85**

* AL and EL are substituted for IRS

Table 5. 7 Correlation and alpha if item deleted for Achievement Motivation scale for the three academic subjects.

It can be seen that item correlations ranged from 0.28 to .70, while the alpha reliability for the twelve items of the scale is .76, .80 and .85 for the three academic subjects IRS, AL and EL respectively. In the pilot study, correlations ranging from .01 to .61 were obtained and the alpha reliabilities were .72, .83 and .79 for IRS, AL and EL respectively. Thus, the correlation between items and the alpha obtained in the main study were slightly higher than those in the pilot study, except for the alpha value in AL (.80), which was a little lower than the value obtained in the pilot study (.83). However, it is clear that all scales in the three academic subjects are acceptably homogeneous and reliable.

5.8.2 Reliability of Attitude Scale

Item correlation and alpha reliability values were computed for the fourteen items of the Attitude scale, and the following results were obtained (Table 5.8):

No.	Statement	Correlation			Alpha if item deleted		
		IRS	AL	EL	IRS	AL	EL
1	We learn about important things in (IRS)*.	.40	.54	.49	.77	.81	.80
2	We cover interesting topics in (IRS).	.35	.40	.37	.77	.82	.81
3	I don't like our (IRS) textbook.	.32	.42	.40	.78	.82	.81
4	I have a good feeling toward IRS).	.54	.59	.56	.76	.81	.80
5	I don't enjoy (IRS) classes.	.48	.45	.52	.76	.82	.80
6	I really like (IRS).	.52	.63	.63	.76	.80	.79
7	I would not enjoy being an (IRS) teacher.	.34	.24	.33	.78	.83	.82
8	I think (IRS) teachers are neat people.	.39	.47	.39	.77	.82	.81
9	Everyone should learn about (IRS) in school.	.26	.48	.48	.78	.82	.80
10	My (IRS) teacher encourages me to learn more about Islam.	.46	.63	.58	.77	.80	.80
11	I don't enjoy talking to my (IRS) teacher after class.	.38	.31	.36	.77	.83	.81
12	My (IRS) teacher makes good plans for us.	.48	.60	.47	.76	.81	.80
13	Sometimes my (IRS) teacher makes me feel dumb.	.35	.25	.23	.78	.83	.82
14	IRS) teachers can be trusted and depended upon.	.46	.51	.44	.76	.81	.81
T	**Total**				**.79**	**.83**	**.82**

* AL and EL are substituted for IRS

Table 5. 8 Correlation and alpha if item deleted for Attitude scale in the three academic subjects.

The correlations of the items range from .24 to .63, while the alpha reliability for the fourteen items of the scale is .79, .83 and .82 for the three academic subjects IRS, AL and EL respectively. These values represent slight increases compared with those of the pilot study, where the correlations ranged from .79, .84 and .79 for IRS, AL and EL respectively. These values indicate that the scale is homogeneous and reliable.

5.8.3 Reliability of Classroom Environment Scale

Table 5.9 shows the item correlations and alpha reliability values for the Classroom Environment scale, in IRS, AL and EL.

No.	Statements	Correlation			Alpha if item deleted		
		IRS	AL	EL	IRS	AL	EL
1	The *IRS teacher helps each student who is having difficulties in understanding the lesson	.42	.55	.55	.70	.77	.78
2	Students discuss the theme of the IRS lesson	.42	.47	.55	.71	.78	.78
3	**The IRS teacher uses tests to find out where each student needs help.**	**.23**	**.15**	**.22**	**.80**	**.85**	**.86**
4	Students sit and listen to the IRS teacher.	.33	.46	.47	.72	.78	.79
5	Students ask the IRS teacher questions.	.47	.52	.53	.70	.77	.79
6	The IRS teacher tries to find out what each student wants to learn about.	.58	.65	.60	.68	.76	.78
7	Most students take part in discussion IRS lesson.	.51	.55	.59	.69	.77	.78
8	Students are encouraged to be considerate of other people's ideas and feelings in IRS lesson.	.46	.53	.56	.70	.77	.78
9	Students are asked questions in IRS lesson.	.47	.56	.52	.70	.77	.79
10	There is classroom discussion in IRS lesson	.47	.56	.61	.70	.77	.78
11	Students are alto give their opinion during discussion in the IRS lesson.	.48	.52	.56	.70	.77	.78
T	**Total**				**.73**	**.80**	**.81**

* AL and EL are substituted for IRS

Table 5. 9 Correlation and alpha if item deleted for Classroom Environment scale in the three academic subjects.

The items were well correlated, except for Item 3, with values of .23, .15 and .22 for IRS, AL and EL respectively, while the alpha reliability for the eleven items of the scale is .73, .80 and .81 for IRS, AL and EL respectively. In the pilot study, the item correlations were low and the alpha reliabilities for the same items were .64, .73 and .63 for IRS, AL and EL respectively, which means that the correlation between items and the alpha values in the main study were higher than the values obtained in the pilot study. Although the reliability values of the level shown in the table are acceptable, it was found that they could be increased by deleting Item 3 according to the criterion used in the pilot study (i.e. deleting items with correlations lower than .35). This increased the alpha reliability to .80, .85 and .86 for IRS, AL and EL, giving a high level of homogeneity and reliability for the scale. It should be noted also that Item 3 which asked about the teacher's use of tests to identify students' need for help, was borrowed from an instrument developed in an Australian context, and might not be

applicable in the context of the Saudi culture and education system. The decision was therefore made to delete Item 3.

5.8.4 Reliability of the Academic Achievement Tests

As mentioned earlier, the discussion of the correlation and reliability between questions of the Academic Achievement Tests had to be deferred to this stage, because the scores were not available during the piloting procedure. Also, it should be noted that marks for individual questions in the EL test were not available, as they were for IRS and AL. Therefore, the reliability test was confined to IRS and AL. Since tests in all three academic subjects are set by the Ministry of Education in KSA, it is expected that the test of EL would have a similar level of reliability to those of IRS and AL. The values for those subjects were as shown in Table 5.11.

No.	Achievement Test	Correlation		Alpha if item deleted	
		IRS	AL	IRS	AL
1	Question one	.49	.67	.78	.72
2	Question two	.63	.67	.73	.71
3	Question three	.63	.73	.73	.70
4	Question four	.67	.43	.72	.79
5	Question five	.47	.38	.79	.80
T				.79	.79

Table 5. 10 Correlation and alpha if item deleted for Academic Achievement Test.

The table shows moderately high correlations, ranging from .38 to .73. The alpha-if-item-deleted values, ranging from .71 to .80 show that reliability would not increase if any item was deleted and the alpha reliability for the whole test, in both IRS and AL, is acceptable, though lower than values reported elsewhere for cognitive tests. Therefore, the tests constitute reliable measures of Academic Achievement in both IRS and AL.

5.9 Content Analysis of the Academic Achievement Tests

The validity of the academic achievement tests for the three academic subjects IRS, AL and EL was assessed by content analysis, as follows:

- The researcher analysed the original academic achievement tests by dividing the questions into sub-questions, for all the three academic subjects IRS, AL and EL.
- The researcher put the sub-questions and the objectives laid down for each academic subject (see Chapter 2) in a table, with the sub-questions in column headings and the objectives in rows (see tables 5.12, 5.13, and 5.14).
- Six copies were given to two analysts (Ph.D. students) who were asked to indicate by ticking in the relevant cells, to which objective each question was related.
- The researcher carried out the same matching exercise.
- The three analyses were compared. There were many discrepancies among the three interpretations. When the researcher discussed those differences with the analysts, it was revealed that the reason for the differences was that the analysts had not understood the sub-questions well, as they were very short, so some of the original meaning had been lost.
- To solve this problem the researcher copied the original academic achievement tests as given to the students in the secondary schools, and gave them to the analysts, with new copies of content analysis tables. The analysis was repeated.
- Once again, the three analyses were compared. This time, there was a much greater level of agreement, though there were still some discrepancies.
- The researcher discussed the remaining differences with the analysts and it was decided that interpretations on which at least two analysts were agreed, would be accepted.
- The researcher drew up tables to indicate those matches between questions and objectives which had been agreed by at least two analysts (see Tables 5.12, 5.13 and 5.14).

The outcome of content analysis of the IRS test is shown in Table 5.12.

Table 5. 11 Content Analysis of Academic Achievement Test for Islamic Religious Science

Objectives / Questions	Recite loudly from Quran	Recite memorizing Quran	Interpret the words	Give two advantages	Paying for parentless	Allah deserves worship	Taking out the literature	Specially young people	The origin of (Rebaa)	Benefit of (Mogahed)	Steps of Favour	Meaning of (Khelafaa)	Complete prophet saying	Penance of freedom	Much swearing of Allah	The types of entreaty	The Prophet's honour	Judgment of cursing	Define (Bedaa)	Types of (Bedaa)	Discuss this problem	Give examples	Defined (Al-Ragaa)	(Edaa) of pregnancy	(Al-Hadaa) avoids	Give reasons of (Dee Har)	Paying to parents	Conditions of (Haaeed)	Frequency (F)	Percentage %
1. Provide students with a foundation of the knowledge base of their traditional religious beliefs.						/									/	/	/	/	/	/	/	/					/		10	36
2. Satisfy student's religious needs and to answer the many questions they bring with them to school concerning their religion.			/		/	/		/	/	/	/	/		/									/	/	/	/	/	/	15	54
3. correct misconceptions and error they have concerning their religion.			/		/	/				/	/	/		/		/		/	/		/		/	/	/	/	/	/	17	61
4. Satisfy the natural curiosity of the students.			/		/				/	/														/	/	/	/		8	29
5. Specifically, to satisfy and respond to students' intellectual, spiritual, and emotional needs concerning such matters as religious sentiment, a sense of loyalty, security and appreciation of themselves, their families, their friends, their country and Allah (God).		/		/	/	/	/	/														/	/	/	/	/	/	/	13	46
6. To help students find new values and beliefs which are supported by their religion.	/						/	/			/												/			/		/	7	25
7. To train students to stand up to and resist values and beliefs that are unacceptable or undesirable.		/			/		/	/	/	/	/				/	/	/	/	/	/	/	/		/		/	/		18	64
8. To encourage and reinforce students' good behaviours.	/	/	/				/	/	/	/	/			/										/		/	/	/	13	46
9. To have students memorise parts of the Quran and the teachings of the prophet - peace be upon him.		/			/								/	/											/	/	/		7	25
10 To prepare students, as Muslims, to live appropriately in this life, and to prepare them for the life to come.	/	/	/			/			/	/	/	/																	8	29
11. To teach students to understand the difference between right and wrong and to differentiate between that which is true and that which is false.			/	/		/		/		/	/	/											/						8	29

Table 5.12 shows that each IRS objective was covered by several test questions. The greatest number of questions related to objectives 3 and 7 (61% and 64% of the test, respectively), concerning correctness of conceptualisation. Each objective was reflected in at least 25% of the questions. This means that the test of IRS was comprehensive and broad in its coverage of the curriculum objectives. The test can therefore be considered to have content validity as an instrument for assessment of IRS.

A similar analysis was carried out for AL. The results were as shown in Table 5.13.

Table 5. 12 Content Analysis of Academic Achievement Test for Arabic Language

	Give a referred noun	Select number as Verde	Judgment of number	Give sample of dipotote	Vowels words	Determine the correct	Call using standard AL	Parse the underlined word	Interpret (Al-Monadaa)	Select the correct word	Give an example	History of poet	Contrast with other poetry	Recite memorizing poetry	Criticize the poetry	Classify poetry's orientation	Put into practice	Role of KSA in education	Criticism orientation	Classify the literature	Recite essay	Write the risks of drugs	Drugs and Arab nation	Classify rhetorically	Theoru of rhetoric	Taste of literature	Rhetoric and criticism	Justify strong poetry	Classify the essay	Select rhetoric sentence	Read the paragraph	Give the synonym	**Frequency (F)**	**Percentage %**
1. Maintaining Allah's book (the Quran) and the Traditional of the prophet (AL-Sonnah) transmitting the principles of Islam and its basic law, `Shariah; encouraging students to take pride in the Islamic nation's civilization and pursue ways of developing the nation.					/			/			/	/					/								/				/			7	22
2. Developing students' linguistic ability, so that they are able to express their ideas effectively.	/	/			/									/							/	/	/		/	/			/	/	/	13	41
3. Developing students' appreciation of literature, enabling them to recognize linguistic styles and figures of speech and to recognise key points in a text.			/	/	/			/		/			/		/	/		/	/					/			/	/	/			14	43
4. Developing students' ability to use standard Arabic properly in speaking and to read and write without mistakes.					/	/	/							/			/				/									/		7	22
5. Helping students to understand the Quran and the prophet's sayings and appreciate the beauty of poetry and prose in standard Arabic.	/	/				/		/	/						/			/	/				/	/	/	/	/	/				14	43
6. Accustoming students to using the library, looking into Arabic works of reference, summarising what they have read and writing assignments on Arabic subjects.					/						/				/	/					/	/									/	7	22
7. Encouraging the status and widespread use of standard Arabic, to support the relationship among Arabs.			/									/	/					/					/									5	16

Table 5.13 shows that objectives 2,3 and 5 had most test items related to them (41%, 43% and 43% respectively), though there was moderate coverage of objectives 1, 4 and 6 (22% for each). The seventh objective was perceived to be the one least reflected in the test items. This might be because the teachers themselves did not speak standard Arabic in the lessons. However, it is clear that the test covered all the objectives of AL, and so can be considered valid as a measure of students' achievement.

Finally, the content validity of the EL achievement test was assessed. The matches between questions and curriculum objectives are displayed in Table 5.14.

Table 5. 13 Content Analysis of Academic Achievement Test for English Language

Objectives / Questions	Write two paragraphs	Write the abbreviation	Correct and rewrite	Complete sentences	Write report	Change into passive	Choose the correct one	Rewrite without clause	Join using while	Make a question	Rewrite with clause	Define Methanol	Name two types of Me	Methanol and time	Find words from parag	Give the opposites	Correct the first verb	Correct underlined verb	Make a question	Give the right answer	Fill the gaps	Frequency (F)	Percentage %
1. To afford secondary school students another window on the world;		/												/							/	3	14
2. To broaden secondary school students' experience through reading samples of English that have a universal appeal, both in arts and sciences;					/							/										3	14
3. To cultivate the student's critical thinking as a useful adjunct to intelligent reading of English texts;					/									/								2	10
4. To give play to the student's imagination by means of imagery in both poetry and visualisation of character;														/			/	/				3	14
5. To provide students who intend to enter university or other higher institutes with an adequate knowledge of English to help them in their future studies;	/	/		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	20	95
6. To give students who finish formal education in the third year of secondary education sufficient knowledge of the language to help in their care;		/			/				/	/	/										/	7	33
7. To help students to gain a reasonable command of English in order to be in a better position to defend Islam against adverse criticism and to participate in the dissemination of Islamic culture							/		/		/											3	14
8. To help students gain, in three years, a reasonable mastery of the four language skills																							
8.a Listening with understanding to spoken English																							
8.b Speaking English correctly with proper stress																							
8.c Reading with understanding English texts														/	/	/	/	/		/	/	7	33
8.d Writing a connected passage of up to a full page	/	/	/	/	/		/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	20	95
9. To stress the utilitarian point of view of learning a foreign language as a useful tool for cultural as well as social and economic communication;		/	/		/			/												/		6	29
10. To foster in students an interest in reading so that later on they may be prepared to read reference books, periodicals and pamphlets bearing on their future field of specialisation.					/	/		/		/	/	/	/	/	/	/	/					11	52

Table 5.14 shows wide variation in the level of coverage of the objectives of EL. Objectives 8a and 8b were not covered at all, while objectives 5 and 8d were each covered by 95% of the items. The high level of coverage of 8d occurred because this objective concentrates on the skill of writing and the EL curriculum in the third year of secondary school is designed to focus mainly on this skill, as discussed in Chapter Two. Comparison with the objectives of IRS shows that objective 7 in each case was similar, being to do with resisting challenges to Islam, though the IRS test, perhaps naturally, placed greater emphasis on this objective than did the foreign language (EL) test.

It is clear that the test of EL did not maintain a good balance between the curriculum objectives. This might be because of a weakness in the design of the curriculum. However, the test questions cover all except two of the 13 objectives of EL relevant to the third year (i.e. all except 8a and 8b).

Content analysis of the questions in the achievement tests for IRS, AL and EL produced a high level of agreement among the three analysts. Each question was perceived as matching one or more of the curriculum objectives, and all objectives were covered, except for speaking and listening in English, which is considered to be a first year, rather than a third year objective. Thus, all the achievement tests were valid measures of the stated curriculum objectives and could therefore appropriately be taken as measures of Academic Achievement in this study.

5.10 Summary

This chapter has described the methods used to collect data for the main study, and has addressed issues of validity and reliability.

This chapter began by presenting a model showing the predicted relationships among variables in the study. This was to provide a framework for the analysis of the empirical data, in order to answer the study questions.

The main fieldwork was carried out in Taif, Saudi Arabia from May - August 1996. secondary schools were chosen and the AMACT questionnaire distributed to a stratified cluster sample made up of all third year classes, classified for analysis purposes by school section (Science or IRS and AL) and by academic subject (IRS, AL and EL).

In addition, 24 IRS, AL and EL teachers (8 for each subject) were selected from the same schools for interview, while a questionnaire based on the interview topics was distributed to the remaining 118 teachers. High response rates were obtained in all cases. These could be attributed to the researcher's personal contact with respondents, assurances of anonymity and the assistance and endorsement the study received from the authorities concerned.

The later sections of the chapter dealt with issues of reliability and validity. Although the reliability of the AMACT questionnaire has been tested as part of the pilot study, it was considered important to confirm reliability with the main study sample. All scales were found to be acceptably homogenous and reliable, after one item which weakened the reliability of the Classroom Environment scale was removed.

Because of the timing of the Third Year Examinations, it was not until the main study that it was possible to investigate the reliability of the Academic Achievement Tests. Reliability testing was carried out for IRS and AL only, as a complete breakdown of marks was not available for EL. The IRS and AL tests were found to yield acceptable alpha values, though lower than those reported elsewhere for cognitive tests, and it was

assumed that the EL test, being set by the same body, would probably be equally reliable.

The validity of the Academic Achievement tests was investigated by content analysis in which the test questions were matched against the curriculum objectives stated in Chapter Two. All items related to one or more objectives, and all objectives were covered. Thus, the tests can be considered valid measures of Academic Achievement in IRS, AL and EL.

This chapter completes the discussion of methodology. The findings from the survey will be presented in the following chapter.

CHAPTER SIX
RESULTS OF THE EMPIRICAL WORK

6.1 Introduction

Part One : Students' Responses

6.2 Descriptive Analysis
- 6.2.1 Students' Academic Achievement
- 6.2.2. Students' Achievement Motivation
- 6.2.3. Students' Attitude toward the Subject
- 6.2.4 Classroom Environment
- 6.2.5. The Use of Teaching Aids

6.3 Differences between Students of the three Subjects
- 6.3.1 Difference between students of the three subjects in Academic Achievement
- 6.3.2 Difference between students of the three subjects in Achievement Motivation
- 6.3.3 Difference between students of the three subjects in Attitude toward subject
- 6.3.4 Difference between students of the three subjects in Classroom Environment
- 6.3.5 Difference between students of the three subjects in Teaching Aids
- 6.3.6 Summary of results

6.4 Correlation Coefficient between Variables
- 6.4.1 Scatterplots
- 6.4.2 Correlation Coefficient between Academic Achievement and (Achievement Motivation, Attitude toward Subject, Classroom Environment, Teaching Aids)
- 6.4.3 Correlation Coefficient between Achievement Motivation and the Variables
- 6.4.4 Correlation Coefficient between Attitude toward Subject & (Classroom Environment and Teaching Aids)
- 6.4.5 Correlation Coefficient between Classroom Environment and Teaching Aids
- 6.4.6. Summary of results

6.5 Students' Additional Comments and Suggestions

Part Two : Teachers' Responses

6.6 Teacher Interview
- 6.6.1 Students' Achievement
- 6.6.2 Teaching Aids
- 6.6.3 Teaching Methods
- 6.6.4 Students' Participation

6.7 Teacher Questionnaire
- 6.7.1 Relationship between Academic Achievement and Achievement Motivation
- 6.7.2 Relationship between Academic Achievement and Attitude toward Subject
- 6.7.3 Relationship between Academic Achievement and Quality of Teacher
- 6.7.4 Relationship between Academic Achievement and Quality of Book
- 6.7.5 Relationship between Academic Achievement and Teaching Aids
- 6.7.6 Relationship between Academic Achievement and Teaching Methods
- 6.7.7 Relationship between Academic Achievement and Student Participation
- 6.7.8 Summary of findings from Teacher Questionnaire
- 6.7.9 Implications of Findings for Questionnaire Reliability

6.8 Teachers' Additional Comments and Suggestions

6.9 Summary

Chapter Six

Results Of The Study

6.1 Introduction

This chapter presents the results of the empirical survey. Part One is concerned with the results of the survey of third year secondary students' achievements in Islamic Religious Science, Arabic Language and English Language, and their responses to the four scales of the AMACT questionnaire.

The discussion of Part One is divided into four sections. The first describes students' Achievement and perceptions of the variables in each scale of the questionnaire. In the second, an analysis is made to see whether there are significant differences between the three subjects (Islamic Religious Science, Arabic Language and English Language) in students' Achievement, Achievement Motivation, Attitude to Subject, perceptions of the Classroom Environment and perceptions of the use of Teaching Aids. In the third, possible correlations between the study variables are considered. The final stage of this part of the analysis looks at the comments and suggestions offered by students in the space left for this purpose in the questionnaire.

Part Two presents the findings from the teacher interviews and teacher questionnaire, regarding teachers' perceptions of students' achievement, teaching aids, teaching methods and students' participation.

The first section of this part (6.6) deals with the interviews, discussion of which is organised into four sub-sections according to the main content areas identified in analysis of the responses.

The second section in Part Two presents findings from the teacher questionnaire, focusing particularly on teachers' belief in an association between student Achievement and other variables.

The analysis of teachers' perceptions ends by considering their responses to an invitation to add any other comments or suggestions they wished to make.

Part One : Students' Responses

6.2 Descriptive Analysis

The data presented in this section provide answers to the first of the research questions, namely, what is the level of students' scores on the study variables, Academic Achievement, Achievement Motivation, Attitude toward Subject, Classroom Environment and Teaching Aids in each of the three academic subjects, Islamic Religious Science, Arabic Language and English Language?

For the purposes of the following discussion, students' achievement test scores, and scores on the Achievement Motivation, Attitude toward Subject and Classroom Environment scales of the questionnaire are classified into three groups: low, moderate and high. This was done on the basis of a cumulative percentage table of mean scores. The low band was taken as encompassing the lowest 25% of the possible range of scores; the top 25% of the possible range of scores were classed as high, and all values in between were denoted as moderate. This was done to provide simple verbal labels for the reader, as the purpose in the discussion was to identify and compare trends for different subjects, rather than to focus on exact scores. In calculating means for these subjects, a score of 1 was assigned to low achievers, 2 to moderate achievers, and 3 for high achievers.

6.2.1 Students' Academic Achievement

Frequencies and percentages for the number of students in each Academic Achievement band are summarised in Table 6.1.

Response	IRS				AL				EL			
	F	%	M	SD	F	%	M	SD	F	%	M	SD
Low achiever	432	35.3	1.97	.82	415	68.1	1.44	.71	435	70.7	1.35	.58
Moderate achiever	398	32.5			117	19.2			146	23.7		
High achiever	394	32.2			77	12.6			34	5.5		
Total	1224	100.0			609	100.0			615	100.0		

Table 6.1 Students' Academic Achievement in the three subjects. IRS = Islamic Religious Science, AL = Arabic Language, EL - English Language. M= mean (by level; min=1, max=3).

According to the table above, in Islamic Religious Science, students were divided almost evenly across the three achievement levels. In contrast, the Academic Achievement scores of the majority of students for Arabic language and English language were in the low band, students in this category far outnumbering moderate achievers and high achievers combined. The level of achievement in English Language was especially low, with over 70% of students being classified as low achievers, and only 34 out of the 615 students being considered high achievers. It is noticeable in the table, however, that despite the differences of distribution of scores, in no case was the mean score above the mid-point of the range and scores were skewed towards the lower end of the spectrum. The very different distributions of Academic Achievement scores between the three subjects can be seen more clearly in Fig 6.1, below.

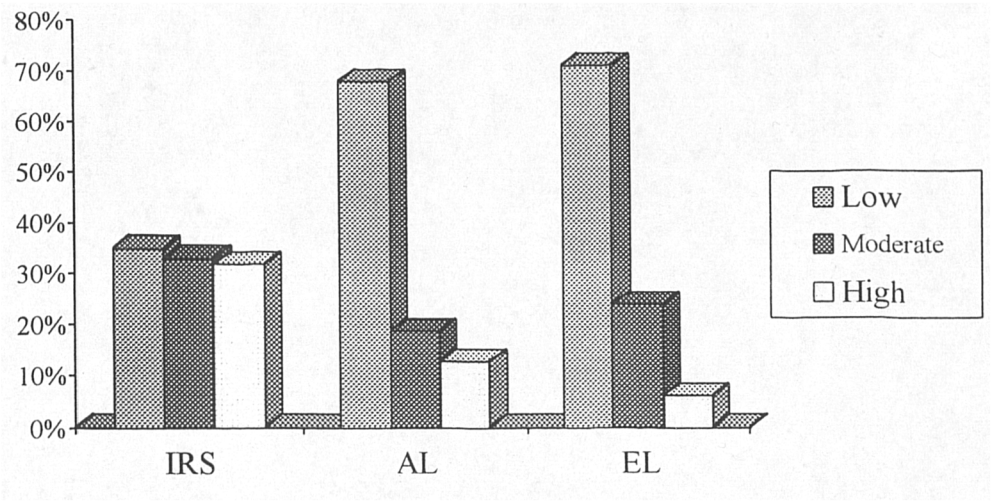


Figure 6.1 Distribution of Academic Achievement scores in three subjects IRS= Islamic Religious Science, AL= Arabic Language, EL= English Language. % of students category.

6.2.2. Students' Achievement Motivation

The following Table (6.2) shows the findings from the Achievement Motivation scale of the AMACT questionnaire.

Response	IRS				AL				EL			
	F	%	M	SD	F	%	M	SD	F	%	M	SD
Low	143	11.7	2.28	.66	161	26.4	1.97	.71	225	36.6	1.84	.74
Moderate	590	48.2			305	50.1			261	42.4		
High	491	40.1			143	23.5			129	21.0		
Total	1224	100.0			609	100.0			615	100.0		

Table 6.2 Students' Achievement Motivation in the three subjects IRS, AL and EL. IRS = Islamic Religious Science, AL = Arabic Language, EL = English Language.

As Table 6.2 shows, the majority of the respondents were moderately motivated to achieve in the three academic subjects. Half the students in Arabic Language and almost as many in Islamic Religious Science and English Language had moderately high Achievement Motivation scores. A higher proportion of students showed high achievement motivation in Islamic Religious Science than in Arabic Language or English Language. For Islamic Religious Science, there were almost as many highly

motivated as moderately motivated students (40.1% and 48.2% respectively), yielding a mean of 2.28, but it is noticeable that in Arabic Language and English Language, less than a quarter of the students showed high achievement motivation, giving lower means for these subjects, 1.97 and 1.84 respectively.

The pattern of Achievement Motivation is clearly seen in Figure 6.2 which follows.

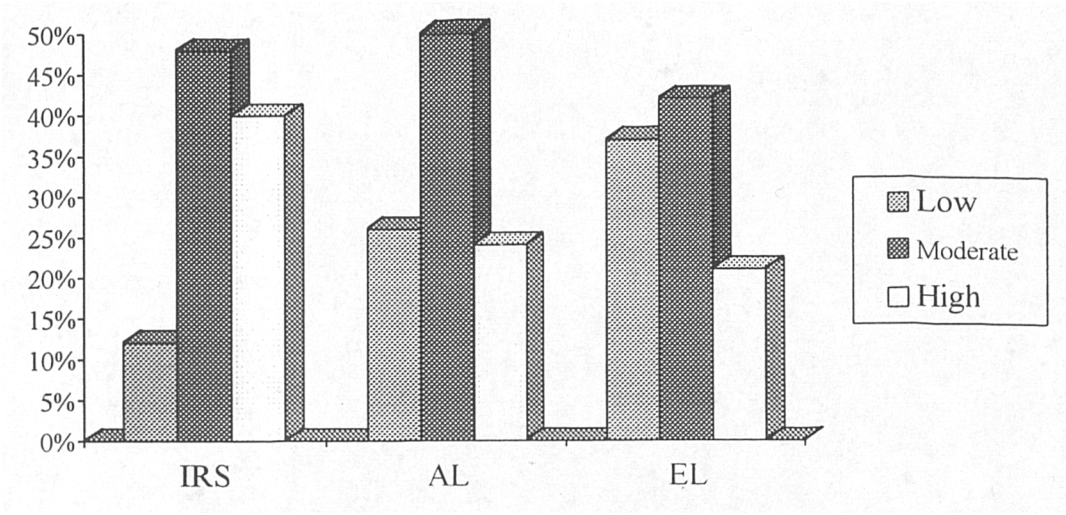


Figure 6.2 Distribution of Achievement Motivation score in three subjects IRS= Islamic Religious Science, AL= Arabic Language, EL= English Language.

6.2.3. Students' Attitude toward the Subject

Table 6.3 shows the outcome of students' answers to the Attitude scale of the AMACT questionnaire.

Response	IRS				AL				EL			
	F	%	M	SD	F	%	M	SD	F	%	M	SD
Low	160	13.1	2.28	.68	189	31.0	1.92	.73	212	34.5	1.84	.71
Moderate	567	46.3			278	45.6			287	46.7		
High	497	40.6			142	23.3			116	18.9		
Total	1224	100.0			609	100.0			615	100.0		

Table 6.3 Students' Attitude towards the three subjects IRS, AL and EL. IRS = Islamic Religious Science, AL = Arabic Language, = English Language.

The table shows that approximately one third of the respondents in Arabic Language and English Language had a low attitude toward their respective subjects, compared with only 13% for Islamic Religious Science. In each subject, almost half the students expressed moderate attitudes. As in the case of Achievement Motivation, however, the largest percentage of high scores was found in Islamic Religious Science, while English Language appeared to be the least favourably perceived subject, with the highest percentage of "low attitude" scores and the lowest percentage of "high attitude" scores.

The pattern of mean scores for the three subjects was the same for Attitude to Subject as for Achievement Motivation. Figure 6.3 below shows clearly the different distributions of scores for the three subjects. As before, distribution in Arabic Language is similar to that in English Language, but both are noticeably different from that for Islamic Religious Science.

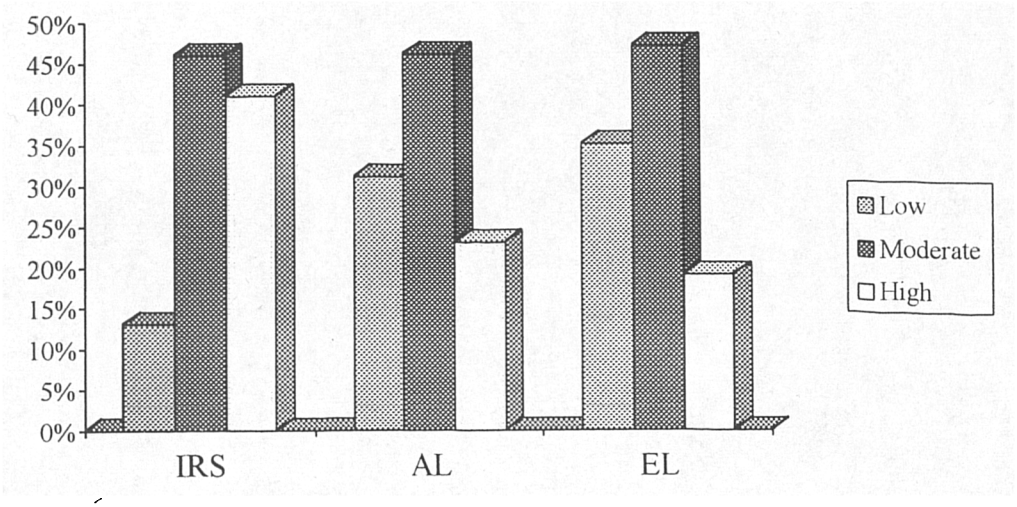


Figure 6.3 Distribution of Attitude toward Subject scores in the three subjects IRS= Islamic Religious Science, AL= Arabic Language, EL= English Language.

6.2.4 Classroom Environment

The results of analysis of responses to those questions concerned with the Classroom Environment can be seen in Table 6.4.

Response	IRS				AL				EL			
	F	%	M	SD	F	%	M	SD	F	%	M	SD
Low	240	19.6	2.09	.69	147	24.1	2.02	.71	190	30.9	1.89	.71
Moderate	636	52.0			303	49.8			301	48.9		
High	348	28.4			159	26.1			124	20.2		
Total	1224	100.0			609	100.0			615	100.0		

Table 6.4 Students' perceptions of Classroom Environment in the three subjects IRS, AL, and EL. IRS = Islamic Religious Science, AL = Arabic Language, EL = English Language.

As the table shows, the responses reveal a similar pattern to those found for Achievement Motivation and Attitude towards the three subjects. However, the differences in perception among the three subjects were less marked than in Achievement Motivation and Attitude toward the subject. Around half the respondents gave a moderate rating to the classroom environment in each of the three subjects Islamic Religious Science, Arabic Language and English Language. English Language had the lowest rating of the classroom environment, with considerably more low scores than high ones. In Islamic Religious Science and Arabic Language, by contrast, percentages of high scores were greater than those of low scores. Mean scores for Classroom Environment were higher than for the previous variables, with both Islamic Religious Science and Arabic Language scoring above the mid-point of the range (2.09, 2.02 respectively) and English Language scoring slightly below the mid-point (1.89). Figure 6.4, below highlights the distribution of scores.

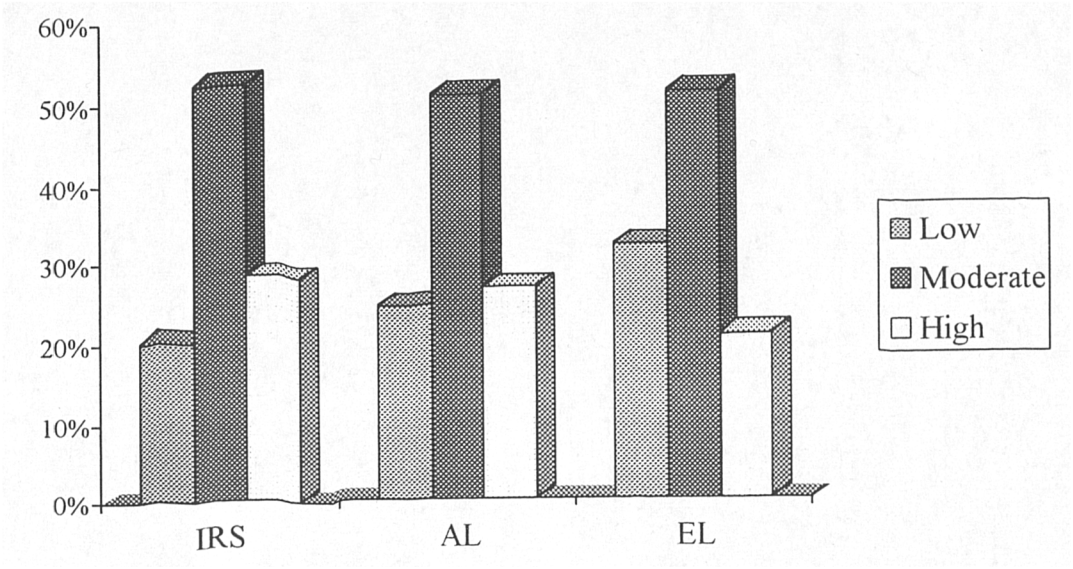


Figure 6.4 Distribution of Classroom Environment scores in three subjects IRS= Islamic Religious Science, AL= Arabic Language, EL= English Language.

6.2.5. The Use of Teaching Aids

Table 6.5 shows the responses of the sample with regard to the use of selected teaching aids in the three subjects, Islamic Religious Science, Arabic Language and English Language. (It will be recalled from Chapter 5 that aids which the pilot study had shown to be universally used were omitted from the questionnaire).

Teaching Aids		Charts		Models		Tape Recorder		Libraries		Language Laboratory	
		F	%	F	%	F	%	F	%	F	%
IRS	Never	583	44.4	698	57.0	853	69.7	723	59.1	924	75.5
	Sometimes	428	35.0	337	27.5	229	18.7	298	24.3	169	13.8
	Always	213	17.4	149	12.2	112	9.2	176	14.4	97	7.9
AL	Never	243	39.9	331	54.4	480	78.8	359	58.9	442	72.6
	Sometimes	185	30.4	157	25.8	64	10.5	144	23.6	73	12.0
	Always	142	23.3	105	17.2	43	7.1	89	14.6	75	12.3
EL	Never	154	25.0	251	40.8	146	23.7	459	74.6	405	65.9
	Sometimes	196	31.9	205	33.3	228	37.1	93	15.1	91	15.1
	Always	239	38.9	135	22.0	225	36.6	51	8.3	105	17.5

Table 6.5 Students' responses on use of TA in the three subjects IRS, AL and EL. TA = Teaching Aids, IRS = Islamic Religious Science, AL = Arabic Language, EL = English Language.

It can be seen from the table that the reported use of the listed teaching aids was not high. Percentages of respondents reporting an aid was "always" used ranged from 7.1% (for use of language laboratory in Islamic Religious Science) to 38.9% (for use of charts in English). In contrast, "never" responses ranged from 23.7% (for use of tape recorder in English) to 78.8% (for use of tape recorder in Arabic).

Regarding the use of charts, it can be seen that only 25% of English Language students reported non-use, compared with 44.4% for Islamic Religious Science and 39.9% for Arabic Language. Correspondingly, in English Language, far more students reported charts were "always" used. For models, the pattern was similar though, overall, reported use of models was lower than that of charts.

Tape recorders appeared to be used predominantly in English Language. There is a very marked difference between the number of "never" responses given for English Language (only 23.7%) and those for the other subjects.

For libraries, use (or lack of it) appeared to be more evenly spread across the subjects, with very high rates of "never" responses in all three subjects: more than half the sample for Islamic Religious Science and Arabic Language, and three quarters of the respondents for English Language students claimed never to use the library.

Very little use of language laboratories was reported; use (sometimes or always) was reported by approximately a third of students in English Language students, a quarter of Arabic Language students, and just over a fifth in Islamic Religious Science students.

Overall, the language laboratory was the aid perceived as being least used, followed by the tape recorder and the library.

To give an overall summary of the general perception of teaching aid use, the data in the above table were combined as follows: all "never" responses for each of the three

subjects were combined to give a single category labelled "no", while all "sometimes" and "always" responses for each subject were combined to yield a category labelled "yes". Thus, "no" represents a general perception that teaching aids are not used, and "yes" a general perception that they are used, irrespective of the level of use, or of the nature of individual aids. No responses were given a score of 1, and Yes responses a score of 2. The results are shown in Table 6.6 below.

Response	IRS				AL				EL			
	F	%	M	SD	F	%	M	SD	F	%	M	SD
Yes	429	35.0	1.35	.48	206	33.8	1.34	.47	337	54.8	1.55	.50
No	795	65.0			403	66.2			278	45.2		
Total	1224	100.0			609	100.0			615	100.0		

Table 6.6 Students' responses relating to the use of teaching aids in the three subject IRS, Al and EL. IRS = Islamic Religious Science, AL = Arabic Language, EL = English Language. M= mean (min=1, max=2). SD= Standard Deviation.

The table shows that for both Islamic Religious Science and Arabic Language, two thirds of the sample indicated that the listed teaching aids were not used. Reported use of teaching aids was higher for English language than for the other subjects; the majority (54.8%) of the sample claimed that the listed aids were used in English lessons. The distribution of Yes/No responses is shown clearly in Figure 6.5, below.

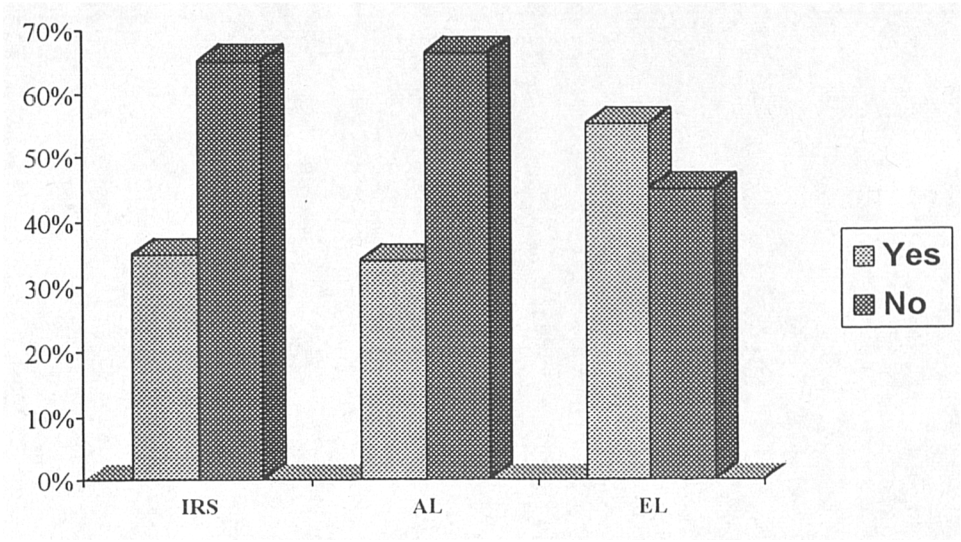


Figure 6.5 Distribution of the use of Teaching Aids in three subjects IRS= Islamic Religious Science, AL= Arabic Language, EL= English Language.

6.3 Difference between responses in the three subjects

The second question to be answered by this research was, are there significant differences among students of the three subjects, in scores on the study variables? The answers are provided in this section.

The descriptive analysis of Achievement Test results and responses to the AMACT questionnaire, presented in the previous section, showed that in general, scores were highest for Islamic Religious Science and lowest for English Language. To ascertain whether these scores do, in fact, denote significant differences between the three samples, in Academic Achievement, Achievement Motivation, Attitude to Subject, perceptions of the Classroom Environment and reported use of Teaching Aids, it is necessary to carry out appropriate statistical tests. In the following sub-sections, possible significant differences between the students in the three subjects are investigated using the t-test.

It will be recalled from Chapter 5 that all of the students participating in the study, responded for Islamic Religious Science, whereas the classes surveyed each answered with regard to Arabic Language or English Language, but not both. Thus, there were 609 students who answered questions in relation to Islamic Religious Science and Arabic Language, and 615 students who answered in relation to Islamic Religious Science and English Language. For this reason, two types of t-test were performed; the t-test for paired samples was used to test for significant differences between responses in Islamic Religious Science and Arabic Language, and between responses to Islamic Religious Science and English Language, while the t-test for independent samples was used to test for significant differences between responses in Arabic Language and English Language. In each case, the significance level was set at 0.05.

6.3.1 Difference between responses in the three subjects in Academic Achievement

The outcome of testing for significant differences in measures of Achievement, between students of Islamic Religious Science, Arabic Language and English Language is shown in Table 6.7, below, in which means relate to the maximum score of 100.

Subjects	No	Means	SD	T. value	P
IRS AL	609	83.52 75.30	10.88 11.34	20.16	.000
IRS EL	615	83.06 74.44	11.06 10.34	19.80	.000
AL EL	609 615	75.30 74.44	11.34 10.34	1.39	.165

Table 6.7 Results of t-test for differences Academic Achievement in the three subjects IRS, AL and EL. IRS = Islamic Religious Science, AL = Arabic Language, EL = English Language.

Table 6.7 indicates that there are significant differences among the three subjects, Islamic Religious Science, Arabic Language and English Language in students' academic achievement.

It can be seen that students in English Language had the lowest mean (74.4), while the mean score for Arabic Language was very similar (75.3). Students of Islamic Religious Science, however, had the highest mean (83.52 and 83.06) for Academic Achievement. This difference is revealed by the test to be significant ($p=<0.05$), indicating that the achievements of students in English Language and Arabic Language are significantly lower than their achievement in Islamic Religious Science, though they are not significantly different from each other.

6.3.2 Difference between responses in the three subjects in Achievement Motivation

For the test for significant between-subject differences in Achievement Motivation, the relevant data are presented in Table 6.8.

Subjects	No	Means	SD	T. value	P
IRS AL	609	4.21 3.91	.571 .694	11.13	.000
IRS EL	615	4.22 3.69	.578 .845	13.91	.000
AL EL	609 615	3.91 3.69	.694 .845	5.03	.000

Table 6.8 Results of t-test for Achievement Motivation in the three subjects IRS, AL and EL. IRS = Islamic Religious Science, AL = Arabic Language, EL = English Language.

Table 6.8 shows differences among the three academic subjects, Islamic Religious Science, Arabic Language, and English Language in Student's Achievement Motivation which are statistically significant ($p = < 0.05$) in each case.

It can be seen that students in English Language had the lowest mean (3.69) and students in Islamic Religious Science had the highest means (4.21 and 4.22) in their Achievement Motivation. These differences indicate that the students in English Language had lower Achievement Motivation than students in both Arabic Language (M= 3.91) and Islamic Religious Science, while students in Islamic Religious Science had higher Achievement Motivation than students in both the other subjects.

6.3.3 Difference between responses in the three subjects in Attitude toward the Subject

Regarding the test for significant between-subject differences in Attitude to Subject, the relevant data are shown in Table 6.9 below.

Subjects	No	Means	SD	T. value	P
IRS AL	609	4.02 3.58	.601 .786	15.19	.000
IRS EL	615	3.96 3.50	.665 .792	12.72	.000
AL EL	609 615	3.58 3.50	.786 .792	1.71	.088

Table 6.9 Results of t-test for Attitude toward the three subjects IRS, AL and EL. IRS = Islamic Religious Science, AL = Arabic Language, EL = English Language

Table 6.9 shows that students in English Language had the lowest mean (3.50), though the mean for attitude towards Arabic Language (3.58) was not statistically different. Students' Attitude towards Islamic Religious Science had the highest means (4.02 and 3.96). There are significant differences between, Islamic Religious Science and each of Arabic Language and English Language, in terms of students' Attitude towards them, with t-value statistically significant ($p = < 0.05$). These differences indicate that the students had lower attitudes towards both Arabic Language and English Language than towards Islamic Religious Science.

6.3.4 Difference between responses in the three subjects in Classroom Environment

Table 6.10, below, shows the data relating to the t-test for significance in the differences between the three groups' scores on Classroom Environment.

Subjects	No	Means	SD	T. value	P
IRS AL	609	3.96 3.81	.742 .844	4.63	.000
IRS EL	615	3.93 3.65	.735 .913	7.36	.000
AL EL	609 615	3.81 3.65	.844 .913	3.31	.001

Table 6.10 Results of t-test for Classroom Environment in the three subjects IRS, AL and EL. IRS = Islamic Religious Science, AL = Arabic Language, EL = English Language.

The table reveals the existence of significant differences in students' perceptions of the classroom environment in the three subjects Islamic Religious Science, Arabic Language and English Language, with the t-value statistically significant ($p = < 0.05$) in each case.

It can be seen from the table that the students' view of the classroom environment in English Language had the lowest mean (3.65) while that of students in Islamic Religious Science had the highest means (3.96 and 3.93). The difference in mean score

between English Language and Arabic Language is significant, as are those between both Arabic Language and Islamic Religious Science. Thus, the table reveals significant differences between the students in Islamic Religious Science and Arabic Language and English Language in their view of the Classroom Environment, with students in English Language having lower ratings of the Classroom Environment than those of Arabic Language, and both having lower ratings than students of Islamic Religious Science.

6.3.5 Difference between responses in the three subjects in Teaching Aids

Students had been asked to indicate their perceptions of the use of five teaching aids. The same method of analysis, paired and independent t-test, was used to study the pattern of responses to each teaching aid separately, and to teaching aids as a composite variable. The relevant data for individual aids are presented in Table 6.11, below.

Teaching Aids	Subjects	No	Means	SD	T. value	P
Chart	IRS AL	609	1.53 1.57	.499 .495	1.65	.000
	IRS EL	615	1.54 1.74	.509 .439	7.77	.000
	AL EL	609 615	1.57 1.74	.495 .439	6.11	.000
Models	IRS AL	609	1.40 1.44	.491 .497	1.58	.114
	IRS EL	615	1.41 1.57	.493 .495	7.55	.000
	AL EL	609 615	1.44 1.57	.497 .495	4.66	.000
Tape-recorder	IRS AL	609	1.30 1.18	.459 .392	5.48	.000
	IRS EL	615	1.27 1.75	.445 .428	20.86	.000
	AL EL	609 615	1.18 1.75	.392 .428	23.92	.000
Library	IRS AL	609	1.36 1.39	.482 .490	1.91	.056
	IRS EL	615	1.41 1.24	.494 .427	9.23	.000
	AL EL	609 615	1.39 1.24	.490 .427	5.98	.000
Language Laboratory	IRS AL	609	1.24 1.25	.426 .436	48.83	.098
	IRS EL	615	1.20 1.33	.407 .492	6.23	.000
	AL EL	609 615	1.25 1.33	.436 .492	2.92	.004

Table 6.11 Students' perceptions of the use of individual Teaching Aids in the three subjects IRS, AL and EL. IRS = Islamic Religious Science, AL = Arabic Language, EL = English Language.

As the table shows, for all the teaching aids considered, with the exception of libraries, students in English Language had the highest mean, and those in Islamic Religious Science, the lowest. The differences between means for these two subjects are statistically significant at $p=< 0.05$, in every case. In other words, in students' perception, libraries were used significantly more in Islamic Religious Science than in English Language, but the converse was the case for all other teaching aids.

For Charts and Tape-recorder, students of Arabic Language, also, scored significantly higher means than those of Islamic Religious Science, indicating a perception of greater use of the aids concerned in Arabic Language than in Islamic Religious Science. The means for English Language were in every case, with the exception of Library, higher than for Arabic Language, and the differences were significant.

Regarding responses to Teaching Aids as a composite variable, the relevant data are presented in Table 6.12, below.

Subjects	No	Means	SD	T. value	P
IRS AL	609	1.37 1.37	.331 .328	.34	.735
IRS EL	615	1.37 1.53	.322 .312	13.36	.000
AL EL	609 615	1.37 1.53	.328 .312	8.30	.000

Table 6.12 Perception of use of Teaching Aids as a composite variable in the three subjects IRS, AL and EL. IRS = Islamic Religious Science, AL = Arabic Language, EL = English Language.

It can be seen from the table that Teaching Aids were perceived as being used significantly more ($p=<0.05$) in English Language than in either of the other two subjects.

6.3.6 Summary of Results

Table 6.13 summarises the data presented in this section, regarding students' Academic Achievement and perceptions of the variables of the AMACT questionnaire, for the three subjects, Islamic Religious Science, Arabic Language and English Language.

Variables	Subject	Mean	IRS	AL
1- Academic Achievement	IRS	83.52/83.06		
	AL	75.30	*	
	EL	74.44	*	
2- Achievement Motivation	IRS	4.21/4.22		
	AL	3.91	*	
	EL	3.69	*	*
3-Attitude toward the subject	IRS	4.02/3.96		
	AL	3.58	*	
	EL	3.50	*	
4- Classroom Environment	IRS	3.96/3.93		
	AL	3.81	*	
	EL	3.65	*	*
5- Teaching Aids				
a) Charts	IRS	1.53/1.54		
	AL	1.57	*	
	EL	1.74	*	*
b) Models	IRS	1.40/1.41		
	AL	1.44	*	
	EL	1.57	*	
c) Tape-recorder	IRS	1.30/1.27		
	AL	1.18	*	
	EL	1.75	*	*
d) Library	IRS	1.36/1.41		
	AL	1.39		
	EL	1.24	*	
e) Language Laboratory	IRS	1.24/1.20		
	AL	1.25	*	
	EL	1.33	*	
6- Overall use of (TA)	IRS	1.37/1.37		
	AL	1.37		
	EL	1.53	*	*

Table 6.13 Students' perceptions of the use of the variables in the three subjects IRS, AL and EL. IRS = Islamic Religious Science, AL = Arabic Language, EL = English Language. (*) = Significant at level 0.05

As the table shows, in Academic Achievement, the difference in mean scores between Arabic Language and English Language is very small: .86. Both the Islamic Religious Science groups, however, had considerably higher means for Arabic Language.

In the case of Achievement Motivation, there were significant differences in means

scores, not only between Arabic Language and English Language (3.91 and 3.69 respectively) but also between each of the languages and Islamic Religious Science, with a size difference of .30 between Islamic Religious Science and Arabic Language, and of .52 between Islamic Religious Science and English Language.

For Attitude toward Subject, the mean scores in Arabic Language and English Language were very close (.08), but significantly lower than for Islamic Religious Science, the differences ranging from .38 to .52.

In Classroom Environment, as for the preceding variables, the lowest mean was for English Language. The difference of .16 between this and the Arabic Language mean, though small, is significant, as are the differences of .15 and .12 between the Arabic Language scores and those of the two Islamic Religious Science groups.

Teaching Aids is the only variable for which scores in English Language were higher than in the other subjects – both for Teaching Aids as a composite variable, and for each of the aids individually, with the exception of use of the library, where Islamic Religious Science scored higher. The smallest difference between means for Teaching Aids was .08, between English Language and Arabic Language for use of the language laboratory, which these low means suggest is little used for any subject. The largest difference is .57 between English Language and Arabic Language for use of tape-recorders.

6.4 Correlation Coefficient between Variables

The review of literature (Chapter 4) reported studies suggesting that there may be correlations between the variables of interest to this study. One of the aims of this study, therefore, was to explore whether such relationships exist in the context of Islamic Religious Science, Arabic Language and English Language in secondary schools in Saudi Arabia. Specifically, the question to be answered is: Are there any significant correlations between the study variables, Academic Achievement, Achievement Motivation, Attitude toward Subject, Classroom Environment and Teaching Aids, in each of the three subjects, Islamic Religious Science, Arabic Language and English Language? To test for such relationships, scatterplots were constructed and correlation coefficients were calculated. The results are presented in the following sub-sections.

6.4.1 Scatterplots

A scatterplot is a pictorial representation of the association between two variables (Borg and Gall, 1996). It provides an easily viewed display of all the data on which the correlation coefficient is based. Reliance on the correlation coefficient alone may be misleading; two variables can have a strong association but a small correlation coefficient if the relationship is not linear. For example, one might suppose that if a variable such as physical strength were analysed in relation to age, the plot might show that at first, age increases, so does the value of the other variable; but at some point, the trend reverses, with physical strength declining as age advances. The two variables are associated, but the pattern is curved, not linear, and the correlation value will be low. Thus, by looking at the correlation alone, the relationship between the variables might be missed. For this reason, it is useful to construct scatterplots as a first step in examining the association between two variables.

Scatterplots for the associations between the study variables (Academic Achievement, Achievement Motivation, Attitude Toward, Classroom Environment and Teaching Aids) for Islamic Religious Science are shown in Appendix 7.

The Figures for all three subjects show broadly similar patterns. In the plots of the associations between Academic Achievement and each of Achievement Motivation, Attitude toward Subject and Classroom Environment, it seems that the majority of points fall in one half of the plot, in the right hand triangle formed when a diagonal line is taken from the highest value of one axis to the highest value of the other. There is, however, no clear or consistent pattern of association between values on the two axes: high values on one variable are associated with a wide spectrum of values on the other. Thus, there appears to be no significant association between Academic Achievement and the other variables. In the plot for the association between Academic Achievement and Teaching Aids, the concentration of points noted in the three plots discussed above, is not found; points are scattered more-or-less evenly across the whole area of the plot, indicating a lack of any relationship between Academic Achievement and Teaching Aids. Indeed, all the plots where Teaching Aids is one of the variables show a similar picture, suggesting that there is no clear relationship between Teaching Aids and any of the other variables.

The remaining three scatterplots (Achievement Motivation and Attitude toward Subject, Achievement Motivation and Classroom Environment, Attitude toward Subject and Classroom Environment), however, present a different picture. In each of these plots, the observed points cluster more or less around a straight diagonal line, with the strongest concentration in the top right hand corner of the graph. This pattern suggests a linear relationship between the variables; as one variable increases, the other tends to increase also. Thus, it appears that for all three subjects, Achievement Motivation is correlated with Attitude toward Subject and Classroom Environment, and Attitude

toward Subject is correlated with Classroom Environment.

The correlation between Achievement Motivation and Attitude toward Subject and Classroom Environment appear, however, to be less marked in the case of IRS than for either of the languages.

For each subject, the strongest relationship appears to be that between Achievement Motivation and Attitude toward Subject. Mathematical expressions of the intensity of these relationships are provided by the correlation coefficients in the following sub-sections (a full list of correlation coefficients is provided in Appendix 8).

6.4.2 Correlation Coefficients between Academic Achievement and (Achievement Motivation, Attitude toward Subject, Classroom Environment, Teaching Aids)

Table 6.14, below, shows the correlations between students' academic achievement and their scores on the other variables, for each of the three academic subjects.

Variables	Academic Achievement		
	IRS	AL	EL
AM	r = -.0078 p = .784	r = -.0044 p = .913	r = .0774 p = .055
AT	r = -.0368 p = .198	r = .0238 p = .559	r = .0448 p = .268
CE	r = -.0487 p = .089	r = .0775 p = .056	r = -.0114 p = .777
TA	r = -.0549 p = .055	r = -.0309 p = .446	r = .0155 p = .701

Table 6.14 Correlations between students' academic achievement and the other variables (AM, AT, CE and TA) in the three academic subjects IRS, AL and EL (N=1224. 609, 615). AC = Academic Achievement, IRS = Islamic Religious Science, AL = Arabic Language, EL = English Language, AM = Achievement Motivation, AT = Attitude, CE = Classroom Environment, TA = Teaching Aids.

From the above table, it appears that the correlation between Academic Achievement and the other variables (Achievement Motivation, Attitude toward Subject, Classroom

Environment and Teaching Aids) is very low for all three subjects, which confirms a lack of association between those variables already noticed in the scatterplots. It can be seen that the lowest (though still non-significant at 0.05) probability values were (p = .055), between Academic Achievement and Achievement Motivation in English Language, (p = .056), between Academic Achievement and Classroom Environment in Arabic Language and (p = .055) between Academic Achievement and Teaching Aids in Islamic Religious Science, but these findings came with very low association (r = .0774, .0775 and .0549 respectively), which renders them of doubtful usefulness. Since r^2 is a common measure of explained variance, these r values enable the prediction of no more than 0.5% of the dependent variable - an insignificant increase from random association.

Looking at the correlation between Academic Achievement and each item of the scales (Achievement Motivation, Attitude toward Subject, Teaching Aids, Classroom Environment) individually (See Appendix 7) revealed no significant correlations in Islamic Religious Science or Arabic Language. There were significant correlations in English Language for three items of Achievement Motivation: "When I fail in English Language that makes me try that much harder" was significant at r = 0.096, p = .01; "I try hard to do well in English Language" at r = 0.086, p = .034, and "I don't find any benefit for English Language" at r = .11, p = .005. For just one item in Attitude toward the Subject, "I have a good feeling toward English Language", there was a significant, correlation (r=.099, p=.015). The values for all four items, however, are so small as to be of no practical significance.

So, the findings overall provide no evidence of any significant correlation between Academic Achievement and (Achievement Motivation, Teaching Aids and Classroom Environment) in any of the three academic subjects Islamic Religious Science, Arabic Language, and English Language.

6.4.3 Correlation Coefficient between Achievement Motivation and the Variables

The outcome of the test for correlation between Achievement Motivation and other variables (Attitude toward Subject, Classroom Environment and Teaching Aids) is shown in Table 6.15, below.

Variables	Achievement Motivation		
	IRS	AL	EL
Attitude Toward	r = .6209 p = .000	r = .7327 p = .000	r = .7652 p = .000
Classroom Environment	r = .4271 p = .000	r = .5013 p = .000	r = .4647 p = .000
Teaching Aids	r = .1690 p = .000	r = .1536 p = .000	r = .1468 p = .000

Table 6.15 Correlation between students' AM and (AT, TA and CE) in the three academic subjects IRS, AL and EL (N.1224,609 and 615 respectively). AM = Achievement Motivation, IRS = Islamic Religious Science, AL = Arabic Language, EL = English Language, AT = Attitude, CE = Classroom Environment, TA = Teaching Aids.

The table shows that there were positive and highly significant correlations (p=0.001) between Achievement Motivation and (Attitude toward Subject, Teaching Aids, Classroom Environment) in the three academic subjects Islamic Religious Science, Arabic Language and English Language. As anticipated from the scatterplots, the highest values of r were between Achievement Motivation and Attitude Toward subject in the three subjects Islamic Religious Science, Arabic Language and English Language (r = .62 r = .73 r = .77 respectively). It can be seen that the highest correlation between variables was in English Language.

The scatterplots had not shown any strong linear pattern of association between Achievement Motivation and Teaching Aids. Although the correlation coefficients obtained for the use of Teaching Aids in the three academic subject are statistically significant, they are very low (r =.17 r=.15 r =.15 for Islamic Religious Science, Arabic

Language and English Language respectively), accounting for only around 2% of the variance in Academic Achievement.

6.4.4 Correlation Coefficient between Attitude toward Subject & (Classroom Environment and Teaching Aids)

The correlations between Attitude toward Subject and each of Classroom Environment and Teaching Aids are shown in Table 6.16, below.

Variables	Attitude toward the subject		
	IRS	AL	EL
Classroom Environment	r = .5345 p = .000	r = .5663 p = .000	r = .5896 p = .000
Teaching Aids	r = .1620 p = .000	r = .1825 p = .000	r = .1740 p = .000

Table 6.16 Correlation between students' AT (CE and TA) in the three academic subjects IRS, AL, and EL (N.1224, 609, and 615 respectively). IRS = Islamic Religious Science, AL = Arabic Language. EL = English Language, CE = Classroom Environment, TA = Teaching Aids.

As the table shows, moderately high and statistically significant correlations were found between Attitude toward Subject and Classroom Environment in the three subjects Islamic Religious Science, Arabic Language and English Language (r = .53 r = .57 r= .59 respectively).

The correlation between Attitude toward Subject and Teaching Aids, however, was very low for each subject; taken in conjunction with the scatterplots, these low correlations show the association between Attitude toward Subject and Teaching Aids to be weak and possibly non-linear.

6.4.5 Correlation Coefficient between Classroom Environment and Teaching Aids

The correlation between Classroom Environment and use of Teaching Aids is shown in Table 6.17.

Variables	CE		
	IRS	AL	EL
TA	r = .1474 p = .000	r = .2053 p = .000	r = .1477 p = .000

Table 6.17 Correlation between students' CE and TA in the three academic subjects IRS, AL and EL (N=1224, 609, 615 respectively). CE = Classroom Environment, IRS = Islamic Religious Science, AL = Arabic Language, EL = English Language, TA = Teaching Aids.

It can be seen from the table that there was a positive significant correlation between them for all three academic subjects, with the correlation for Arabic Language slightly higher than those for Islamic Religious Science and English Language. The very low values of these correlations are not surprising in the light of the evidence provided by the scatterplots, and cannot be taken to indicate a useful linear relationship between the variables.

6.4.6. Summary of results

Table 6.18 summarises the findings reported in this section of the chapter, regarding correlations between the study variables.

Variables	Academic Achievement		
	IRS	**AL**	**EL**
AM	NS	NS	NS
AT	NS	NS	NS
CE	NS	NS	NS
TA	NS	NS	NS
	Achievement Motivation		
AT	S	S	S
CE	S	S	S
TA	S	S	S
	Attitude toward Subject		
CE	S	S	S
TA	S	S	S
	Classroom Environment		
TA	S	S	S

Table 6.18 Summary of the Correlations of the research variables (AC, AM, AT, CE and TA) in the three academic subjects IRS, AL and EL (N=1224. 609, 615). AC = Academic Achievement, IRS = Islamic Religious Science, AL = Arabic Language, EL = English Language, AM = Achievement Motivation, AT = Attitude, CE = Classroom Environment, TA = Teaching Aids. S = Significant NS = Not Significant. (P=0.05)

It can be seen from the table that Academic Achievement was found to be not significantly correlated with any of the other variables, for Islamic Religious Science, Arabic Language or English Language. In contrast, all other variables were significantly correlated, for each of the academic subjects. Referring back to the previous tables (6.14 – 6.17) it should be remembered that none of the individual items in the Achievement Motivation, Attitude toward Subject, Classroom Environment and Teaching Aids scales were significantly associated with Academic Achievement in either Islamic Religious Science or Arabic Language. In the case of English Language,

four items showed a significant correlation with Academic Achievement, but the association was too low to be of any practical value.

Correlations between Achievement Motivation and all other variables were positive and highly significant ($p < .001$), for all three subjects, though the site of the association varied. The highest correlations were with Attitude toward Subject (from .6209 to .7653); the lowest with Teaching Aids (from .1468 to .1690).

In fact, all the significant correlations involving Teaching Aids came with very low values.

6.5 Students' Additional Comments and Suggestions

About a third of the students surveyed took the opportunity to make comments and suggestions in the space left for that purpose. This high level of response shows a high level of involvement on the part of the respondents and increases the likelihood that other responses were thoughtful and truthful. It can be noted, however, that there was a large number of responses for English Language, but very few for Islamic Religious Science, particularly bearing in mind the greater size of the Islamic Religious Science sample. This could indicate that Islamic Religious Science students were less involved with the study than others, or that they were less prone to criticise. Table 6.19 shows their responses, according to academic subject, arranged in each case in order of frequency. Certain common themes can be seen across the three subjects, though there may be differences in priority. For all subjects, there were suggestions that teachers be encouraged to use teaching aids, and that teachers must be suitably qualified. On the subject of Teaching Aids, for example, one student commented,

> "I have never seen my Islamic Religious Science or Arabic Language teachers use any type of teaching aids, so they should be encouraged to use them."

Another said:

> "The Ministry of Education should provide every school with teaching aids. It should also ask Islamic Religious Science and Arabic Language teachers to use them."

Another concern related to time allocated to the various subjects; students wanted fewer lessons on Islamic Religious Science and Arabic Language, but more in English Language. For both Arabic Language and English Language, there were calls to make the subject easier, and even a number of students who thought these subjects should be removed from the secondary curriculum altogether. For each of the three subjects, there

was also a suggestion for introduction of a more active, participatory element in learning: discussion, using the library, or English conversation periods.

In addition, there were concerns that were subject-specific. Islamic Religious Science students wanted to study topics related to their daily life, and for the methods of assessment to be reconsidered. With regard to the relevance of the Islamic Religious Science curriculum, for example, some typical comments were:

> "It does not cover my daily needs at all."
>
> "It is not relevant to my daily life and it is very difficult."
>
> "We study so many topics that we do not need in our daily life."
>
> "The topics we study in Islamic Religious Science are very old and difficult to understand and don't suit our needs today."

Students of English Language made the most comments and suggestions. They suggested the need for a language laboratory, the desirability of starting to learn English in primary school, and a preference for fewer topics to be covered in the reading book. Some commented that it would be better if the English teacher did not speak Arabic throughout English Language lessons, and some thought it would be a good idea to open a special department of English Language. On the subject of starting to learn English Language at the primary level, for example, one student wrote:

> "The English Language should be started from the first stage (primary school) to give us more confidence and enable us to cover everything in secondary school."

On the subject of English Language teachers' use of Arabic, a typical comment was:

> "English Language teachers usually speak Arabic to explain English words in the lesson. This confuses me sometimes. It would be better to keep talking in English during the lessons."

Regarding priorities, for Islamic Religious Science students, the relevance of the curriculum was the main concern, while for both Arabic Language and English Language students, it was the difficulty of the language. Choosing a qualified teacher was one of the highest ranking items for Islamic Religious Science and Arabic Language but only moderate in ranking for English Language. Teaching aids ranked moderately high in the priorities of Islamic Religious Science students, but came next to lowest among the suggestions of Arabic Language and English Language students, perhaps because, as Table 6.6 indicated, teaching aids are already, in the perception of students, used more in Arabic and English than in Islamic Religious Science.

Students' additional comments and suggestions

No	Students' comments and suggestions	F	%*
	Islamic Religious Science		
1	Choose topics in IRS which are related to our daily life	25	28
2	Choose a qualified IRS teacher	20	22
3	Give students the opportunity to participate in discussions and express their opinions	16	18
4	Encourage IRS teachers to use Teaching Aids	12	13
5	Ask IRS teachers to use varied methods to assess the students' progress	10	11
6	Allocate fewer periods in the weekly timetable to IRS	7	8
	Arabic Language		
1	Simplify the Arabic Language curriculum	35	31.5
2	Choose a qualified AL teacher	30	27
3	Allocate fewer periods in the weekly timetable to AL	20	18
4	Stop teaching Arabic language in secondary school	14	13.5
5	Encourage AL teachers to use Teaching Aids	6	5.4
6	Availability of weekly period to visit the school library	5	4.5
	English Language		
1	Simplify the English language curriculum	55	23.7
2	Remove EL from the curriculum	32	13.7
3	Make language laboratories available	30	12.9
4	Choose a qualified EL teacher	28	12
5	Start to teach EL in the first year of primary school	25	10.7
6	Reduce the number of units in the reading book	13	5.6
7	Allocate more periods in the weekly timetable to EL	13	5.6
8	Have a weekly period set aside for conversation	12	5.1
9	Open a special department for learning English language	10	4.3
10	Encourage EL teachers to use Teaching Aids	8	3.4
11	Ask EL teachers not to speak in Arabic during English language lessons	6	2.5

Table 6.19 Students' additional comments and suggestions. 90 IRS, 110 AL and 232 EL - total responses 432.
%* = % of responses for subject.

Part Two : Teachers' Responses

6.6 Teacher Interview

This section presents the first of two complementary sets of information (one derived from interviews, the second from the teacher questionnaire) which together answer questions four and five of the study, regarding teachers' opinions on students' Academic Achievement and factors which they believe may affect it. In particular, it provides answers to the first half of question four, namely, what are teachers' opinions on students' Academic Achievement and participation and on their own use of Teaching Aids and Teaching Methods in the teaching of Islamic Religious Science, Arabic Language and English Language?

As indicated earlier (see Chapter 4), the researcher interviewed 24 teachers of the three academic subjects Islamic Religious Science, Arabic Language and English Language, eight for each. As explained in Chapter 4, the interviews were highly structured.

To analyse the responses, the researcher followed the same procedure described in Chapter Four in relation to the Pilot Interviews (see section 4.13.1). The views of the 24 teachers related to Islamic Religious Science, Arabic Language and English Language are summarised in Table 6.20.

Teachers' Interview Responses

Statement	IRS								AL								EL							
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
1- Most students are low achievers	/		/	/	/		/			/	/			/	/			/	/	/	/	/	/	
2-Students don't have motivation to achieve.	/	/			/	/	/				/	/		/		/	/	/		/	/		/	/
3-To increase the number of higher achiever I add outside activities	/	/	/			/	/				/				/		/			/	/		/	
4-To increase the number of higher achievers I determine weaknesses and solve them	/	/		/			/	/		/				/	/			/						
5-To increase the number of higher achievers I concentrate on the weak students	/	/	/				/	/	/		/	/	/		/			/	/					
6-The TA available in the school are boards, library, and Edu TV.	/		/	/	/			/	/	/	/		/		/		/	/		/	/	/		
7- The use of TA is very low	/	/	/			/	/	/	/		/	/	/	/	/	/	/	/			/		/	
8- I think tape recorder would be useful in my subject	/					/	/					/					/		/	/	/	/	/	/
9- Lecture method is used most often	/		/	/	/		/			/			/											
10- It is appropriate to my subject	/	/	/	/	/		/	/	/	/	/		/	/	/	/	/	/			/	/	/	
11-I would like to use the discussion method much more	/		/	/	/		/			/			/											
12-The discussion method motivates the students to achieve	/							/	/		/	/	/				/	/	/	/				
13-The size of the textbook stops me using it more often	/		/							/		/		/	/	/		/			/			/
14-Students never discuss their lesson in the classroom	/	/	/	/	/		/			/		/												
15-Most students sometimes take part in class discussion	/	/		/	/		/			/		/		/	/	/		/		/	/		/	
16-Students sometimes ask questions about the lessons	/	/	/	/			/			/		/		/		/	/		/	/		/		/
17-I think students should participate in the lessons	/	/	/	/		/	/	/		/		/	/	/	/	/	/	/	/	/	/		/	/
18-Participating in the lessons makes students more interactive	/		/		/	/		/				/	/		/	/	/	/		/	/	/	/	/
19-To increase the number of higher achievers I increase the discussion		/	/			/	/	/			/		/	/	/			/		/	/		/	
20-To increase the number of higher achievers, various teaching methods should be used		/					/										/	/	/	/			/	
21-The discussion method is used most often		/				/		/	/			/		/	/	/	/	/	/	/	/	/	/	/
22-Participation makes the lesson more interesting			/	/	/		/	/	/	/	/		/			/	/	/	/	/				/
23-Most students are moderate achievers			/			/		/	/			/	/			/	/							/
24- It gives good results				/			/					/		/			/	/		/		/		/
25-Participating in the lesson gives the students chances to ask about what they didn't understand.				/		/			/			/		/	/		/	/		/		/	/	/
26-The teaching load (24 hours per week) stops me using it more				/	/		/		/	/		/	/	/	/	/	/		/		/	/	/	/
27-To increase the number of higher achievers, good preparation for the lesson should be done				/										/					/		/	/		
28-The quality of the teacher is not good					/	/		/		/				/	/		/		/	/		/	/	
29-Students always discuss their lesson in the classroom						/		/	/		/					/		/		/		/	/	
30–Students don't have a good attitude toward the subject									/			/	/			/		/	/	/	/	/	/	
31-I would like to use the inquiry method much more									/			/		/	/									
32-I think overhead projector is useful to use in my subject											/	/					/		/	/	/		/	/
33-To increase the number of higher achiever s I use Teaching Aids																/	/			/	/	/	/	/
34-I think Language Laboratory is very important to use in my subject																	/	/	/	/			/	/
35-I would like to use programmed learning much more																			/	/	/		/	

Table 6.20 Responses obtained in the interview. IRS = Islamic Religious Science, AL = Arabic Language, EL = English Language.

It should be noted that the interview contained four main aspects. The table below shows these main aspects, and the table items relevant to each of them.

Variables	Items
1- Students' Achievement	1, 2, 3, 4, 5, 19, 20, 23, 27, 28, 30 & 33
2- Teaching Aids	6, 7, 8, 32 & 34
3- Teaching Methods	9, 10, 11, 12, 13, 21, 24, 26, 31 & 35
4- Students' Participation	14, 15, 16, 17, 18, 22, 25 & 29

Table 6.21 Main aspects of Teacher Interview Responses and items relevant to each of them.

In the following sub-sections, each of these aspects is analysed in turn, for the three academic subjects Islamic Religious Science, Arabic Language and English Language.

These results should be interpreted cautiously, due to the small number of teachers involved. They do, however, provide useful indications of teachers' views and concerns in relation to the issues raised by the researcher.

6.6.1 Students' Achievement

The comments made by teachers in relation to students' academic achievement are presented in Table 6.22, below.

Statement	IRS F	AL F	EL F
Level of Achievement			
- Most students are low achievers	5	4	6
- Most students are moderate achievers	3	4	2
Causes this level			
-Students don't have motivation to achieve	5	4	4
- Students' don't have a good attitude toward the subject	0	4	6
-The quality of the teacher	3	3	5
Try to increase the number of higher achievers			
- Add outside activities	5	2	4
- Determine weaknesses and solve them	5	3	1
- Focusing on the weak students	5	5	2
- Increase the discussion in the class	5	4	4
- Good preparation for the lesson should be done	1	1	3
- Various teaching methods should be used	2	0	5
- Increase the use of Teaching Aids	0	1	6

Table 6.22 Teachers' perspective of AC in the three academic subjects IRS, AL and EL (N=8 for each). IRS = Islamic Religious Science, AL = Arabic Language, EL = English Language. F= frequency..

As the above table shows, five of the eight teachers of Islamic Religious Science had the view that their students were low achievers and the rest thought they were moderate achievers. In Arabic Language, teachers were equally divided between those who perceived their students as low achievers, and those who thought achievement was moderate. Six teachers of English Language perceived students as low achievers and only two saw them as moderate achievers. It can be seen that none of the teachers reported any high achievers in any of the three subjects.

Five of teachers of Islamic Religious Science reported that students lack motivation to achieve in the subject and three suggested the quality of the Islamic Religious Science teachers was responsible for low achievement. Four teachers of Arabic Language attributed students' perceived low achievement to lack of motivation to achieve and four thought it was due to a poor attitude to the subject. As in Islamic Religious Science, three teachers admitted there might be a problem with teacher quality. Among teachers of English Language, the most frequently cited cause of the students' perceived poor achievement in English Language was their attitude towards the subject, mentioned by six teachers. The quality of the teachers, and students' achievement motivation, were cited by five and four teachers respectively, as reasons for low achievement in the view of English Language teachers.

In general, then, students' achievement motivation, attitude towards the subjects and teacher quality were all perceived to be factors affecting students' achievement.

As regards what teachers did to increase the number of higher achievers, the strategy most frequently mentioned by the three groups overall was discussion in class. The second most favoured option was focusing on the weak students, and the third, adding outside activities.

The English Language teachers, more than any others, showed interest in increasing the use of teaching aids and various teaching methods, to enhance achievement.

6.6.2 Teaching Aids

Teachers' comments on the teaching aids available in their schools, and those which they thought would be helpful to the students, are shown in Table 6.23, below.

Statement	IRS -F	AL -F	EL -F
TA available in the schools			
-Boards, Library, video & TV	5	5	5
- The use of TA are very low	6	7	4
TA Could be helpful to the students			
- Tape Recorder	3	1	7
- Overhead projector	0	2	6
- Language Laboratory	0	0	6

Table 6.23 Teachers' perspective of use of TA in the three academic subjects IRS, AL and EL (N=8 for each). TA = Teaching Aids, IRS = Islamic Religious Science, AL = Arabic Language, EL = English Language. F= frequency.

The table indicates that more than half the teachers in Islamic Religious Science, Arabic Language and English Language mentioned boards, library, video and T.V. as being available in the schools, though they perceived usage of teaching aids as being very low.

As regards teaching aids which could be helpful to the students, English Language teachers perceived tape recorders, overhead projectors and language laboratories, as useful. For Arabic Language teachers, it seemed the preferred resource would be an overhead projector, though it was only mentioned by two of the eight teachers. Only the tape recorder was perceived as being helpful for Islamic Religious Science.

It is interesting to note that for both Islamic Religious Science and Arabic Language, only three teachers mentioned one or other teaching aid as being potentially useful, while teaching aids were mentioned nineteen times by English teachers (most of them expressed interest in more than one aid). Thus, an impression is gained that the English Language teachers interviewed were more interested than their Islamic Science and Arabic Language colleagues in using teaching aids though, given the small sample

involved, this result should be treated with caution.

Another point worth noting is that Arabic Language and English Language teachers' responses reflect the traditional view of the use of aids in the teaching of the languages, which gives an indication of the reliability of the findings.

6.6.3 Teaching Methods

Teachers' views on the teaching methods they use or would like to use, are presented in Table 6.24.

Statement	IRS -F	AL -F	EL -F
Teaching Methods			
- Lecture Method is used most often	5	2	0
- Discussion Method is used most often	3	5	8
Reason for choosing this methods			
- It is appropriate to my subject	7	7	6
- Discussion method motivates the students to achieve	2	4	4
- It gives good result	2	2	5
Teaching Methods you would like to use			
- Discussion Method	4	2	0
- The Inquiry Method	0	4	0
- Programmed Learning Method	0	0	4
Problems stop using this Methods			
- The length of the textbook stops me using it more	2	5	3
- The teaching load (24 hours per-week) stops me using it	3	7	6

Table 6.24 Teachers' perspective of TM in three academic subjects IRS, AL and E (N=8 for each). TM = Teaching Method, IRS = Islamic Religious Science, AL = Arabic Language, EL = English Language. F= frequency

The above table indicates that the lecture method was reported as the main teaching method by Islamic Religious Science teachers, whilst discussion methods were said to be used more in the language lessons; all the English Language teachers reported that this was their main method.

Teachers gave various reasons for choosing the stated method, some mentioning more than one reason. The reason most commonly cited was that the teachers thought the methods they mentioned were appropriate to the subject. In the view of four Arabic Language teachers and the same number of English Language teachers, the discussion

method motivates the students to achieve (50%), just two Islamic Religious Science teachers made the same comment.

Four of the Islamic Religious Science teachers thought the discussion method is one they would like to use more, while the same number of Arabic Language teachers were interested in the inquiry method and four English Language teachers wanted to try programmed learning. There were, however, many non-responses to this question; half the Islamic Religious Science and English Language teachers, and two of the Arabic Language teachers, gave no indication of a desire to try other teaching methods.

Several teachers, particularly in Arabic Language and English Language, said that the teaching load stopped them using the teaching methods in which they were interested. The length of the textbook was also reported as a constraint, particularly for Arabic Language.

6.6.4 Students' Participation

Teachers' perceptions of students' participation in lessons are presented in Table 6.25.

Statement	IRS -F	AL -F	EL -F
Students' Participation			
- Students never discuss their lesson in the classroom	5	2	0
- Most students sometimes take part in class discussion	1	3	4
- Students always discuss their lesson in the classroom	2	3	4
Teachers attitude toward Students' Participation			
- Students should participate in the lessons	7	6	7
Why do you give this answer			
- Participation make students more interactive	5	4	7
- Participation make the lesson more interesting	5	5	5
- Participation gives the students chance to ask about what they didn't understand.	2	0	5

Table 6.25 Teachers' perspective of SP in three academic subjects IRS, AL & EL (n=8 of each). SP = Student Participation, IRS = Islamic Religious Science, AL = Arabic Language, EL = English Language. F= frequency

The table reveals that in Islamic Religious Science lessons it was claimed by five of the teachers that students never discuss their lesson in the classroom. In English Language lessons, half the teachers said students always discuss their lesson in the classroom, and

the remainder said students sometimes take part in class discussion.

Most of the teachers interviewed, for all three subjects, agreed that students should participate in the lessons. Teachers of all subjects said that this is because participation makes the students more interactive. Teachers of English Language commented that participation gives the students the chance to ask about what they do not understand.

There was agreement among teachers of Islamic Religious Science, Arabic Language and English Language that participation makes lessons more interesting (5 responses in each group).

6.7 Teacher Questionnaire

This section presents the second of the complementary data sets referred to at the beginning of section 6.6. Teachers' questionnaire responses provide the answers to the second part of Research Question 4, namely, are teachers' perceptions of Teaching Aids, Teaching Methods and Participation related to their perceptions of students' Academic Achievement? It also addresses the fifth of the questions posed by the study: What are teachers' beliefs as to the relationship between student Academic Achievement and such factors as Achievement Motivation, Attitude toward Subject, the Quality of the Teacher and the Quality of the Book and are such beliefs significantly related to teachers' perceptions of student Academic Achievement?

As explained in Chapter 4, in order to obtain the views of a larger sample of teachers than could be reached by interview alone, a questionnaire survey was carried out of the other teachers of third year secondary Islamic Religious Science, Arabic Language and English Language classes. (See section 4.13 for details of the questionnaire construction). This section is concerned with the responses to that questionnaire. In the analysis of the responses, chi-square has been used to study the statistical significance of the distributions of responses to items used to investigate teachers' belief in relationships between Academic Achievement and other variables, and possible relationships between such beliefs and teachers' perceptions of students as low, moderate or high achievers. Chi-square has also been used to study the statistical significance of differences in perceptions of use of teaching aids, use of varied teaching methods, and student participation, among teachers of the three academic subjects.

6.7.1 Relationship between Academic Achievement and Achievement Motivation

Teachers were asked if there is a relationship between Academic Achievement and Achievement Motivation. Table 6.26 shows the resulting data.

Subject	Achievement Motivation					
	Yes	No	No.	DF	X^2	P
IRS	19	22	41	1	.22	.64
AL	28	13	41	1	5.49	.02
EL	23	8	31	1	7.25	.007

Table 6.26 Teachers' belief that students' AC is or is not related to their AM, for the three academic subjects, IRS, AL and EL.

Chi-square tests were carried out to see if there was any significance in the distribution of teachers' Yes/No responses to the question whether they believed Academic Achievement to be related to Achievement Motivation. The null hypothesis was that there is no statistically significant difference between the numbers of teachers answering Yes and No, for each of the three subjects.

As the table shows, in both English Language and Arabic Language, the majority of teachers believed in a relationship between Academic Achievement and Achievement Motivation (23 and 28 respectively). Chi-square shows the distribution of responses for these two subjects to be significant at $p = < 0.05$. For Islamic Religious Science, however, the distribution of responses is not statistically significant.

F-test revealed the existence of significant differences in response, between the three groups (see Table 6.27 below).

Achievement Motivation	DF	Sum of Squares	Mean Squares	F Ratio	P Prob
Between Groups	2	1.6285	.8143	3.5815	.031
Within Groups	110	25.0087	.2274		
Total	112	26.6372			

Table 6.27 F ratio for teacher perception of Achievement Motivation by three subjects. IRS = Islamic Religious Science, AL = Arabic Language, EL = English Language.

The Arabic Language and English Language teachers clearly believed student Achievement is related to their Achievement Motivation, whereas no such trend was evident from Islamic Religious Science teachers' perception.

Teachers were also asked their perceptions of students' Academic Achievement and their responses were cross-tabulated with their responses regarding the possibility of a relationship between Academic Achievement and Achievement Motivation. The relevant data are presented in Table 6.28, below.

AC	AM								
	IRS			AL			EL		
	Yes	No	T- Row	Yes	No	T- Row	Yes	No	T- Row
Low	5	4	9	6	2	8	6	1	7
	(56 %)*	(54 %)	(22 %)	(75 %)	(25 %)	(22 %)	(86 %)	(14 %)	(23 %)
Moderate &	14	18	32	22	11	33	17	7	24
High	(44 %)	(56 %)	(78 %)	(67 %)	(33 %)	(81 %)	(71 %)	(29 %)	(77 %)
T- Column	19	22	41	28	13	41	23	8	31
	(46 %)	(54 %)	(100 %)	(68 %)	(32 %)	(100 %)	(74 %)	(26 %)	(100 %)
Result of Chi-square	X^2= .39371	P= .53036		X^2= .20650	P= .64952		X^2= .62678	P= .42854	

Table 6.28 Relationship between teachers' perceptions of students' AC and perceptions that AC is affected by AM, for the three academic subjects IRS, AL & EL (N=41, 41 and 31 respectively). AC = Academic Achievement, AM Achievement Motivation, IRS = Islamic Religious Science, AL = Arabic Language, EL = English Language.* = Yes/ percentages refer to % of the row total for the subject concerned.

In preparing the table, the moderate and high categories have been combined because doing so gave more suitable scores than when the three levels were treated separately. Moreover, the Moderate and High categories represent a difference in degree, but not in

the nature of the responses – they are both positive responses – whereas the low category represents negative responses.

The above table shows that among teachers who perceived their students as low achievers, a relationship between Academic Achievement and Achievement Motivation was perceived by about half the Islamic Religious Science teachers, a smaller proportion than for both Arabic Language and English Language. Claims of a relationship between Academic Achievement and Achievement Motivation were made by Six of those teachers of English Language who perceived their students as low achievers.

For teachers who saw their students as moderate and high achievers, 65% of the sample in Islamic Religious Science saw no relationship between Academic Achievement and Achievement Motivation, whereas for Arabic Language and English Language the reverse was the case, a relationship between Academic Achievement and Achievement Motivation was claimed by about 70% of respondents in each subject.

Chi-square tests were carried out to test the null hypothesis that there is no significant association between teachers' perceptions of student Achievement and their belief that Achievement is affected by Achievement Motivation, for the three subjects, Islamic Religious Science, Arabic Language and English Language. The p values shown in the table are all non-significant at the 0.05 level. Therefore, for each subject, the null hypothesis can be accepted. There is no relationship between teachers' perceptions of their students' ability level and their belief in a relationship between Academic Achievement and Achievement Motivation.

6.7.2 Relationship between Academic Achievement and Attitude toward Subject

Table 6.29 presents the outcome of a test for significance in the distribution of Yes/No responses, for the teachers of the three subjects, to the question whether they believed Academic Achievement to be related to Attitude toward Subject.

Subject	Attitude toward the subject					
	Yes	No	No.	DF	X^2	P
IRS	14	27	41	1	4.12	.04
AL	28	13	41	1	5.49	.02
EL	22	9	31	1	5.45	.02
F Test p .001 (EL,AL) > IRS						

Table 6.29 Teachers' belief that students' AC is or is not related to their Attitude toward the subject, for the three academic subjects, IRS, AL and EL.

The table shows that, for each subject, the distribution of Yes/No responses is statistically significant from random ($p =< 0.05$). Therefore, the null hypothesis that there is no statistically significant difference between the numbers of teachers answering Yes and No, is rejected for each subject. English Language and Arabic Language teachers were significantly more likely than not, to believe that student Achievement is related to Attitude toward Subject, while Islamic Religious Science teachers were more inclined to believe that Achievement and Attitude towards the Subject are not related.

An F-test of the same data showed this difference of perception to be statistically significant at $p = < 0.05$.

The data regarding teachers' perceptions of students' Achievement and their responses to the question whether they believed that Academic Achievement is related to the Attitude to the academic subject (Islamic Religious Science, Arabic Language or English Language) are presented in Table 6.30.

AC	AT								
	IRS			AL			EL		
	Yes	No	T- Row	Yes	No	T- Row	Yes	No	T- Row
Low	3	6	9	6	2	8	5	2	7
	(33 %)*	(67 %)	(22 %)	(75 %)	(25 %)	(22 %)	(71 %)	(29 %)	(23 %)
Moderate &	11	21	32	22	11	33	17	7	24
High	(34 %)	(66 %)	(78 %)	(67 %)	(33 %)	(81 %)	(71 %)	(29 %)	(77 %)
T- Column	14	27	41	28	13	41	22	9	31
	(34 %)	(66 %)	(100 %)	(68 %)	(32 %)	(100 %)	(71 %)	(29 %)	(100 %)
Result of Chi-square	X^2= .00339 P= .95357			X^2= .20650 P= .64952			X^2= .00093 P= .97565		

Table 6.30 The relationship between students' AC and AT in view of their teachers in the three academic subjects IRS, AL and EL (N=41, 41, 31 respectively). AC = Academic Achievement, AT = Attitude, IRS = Islamic Religious Science, AL = Arabic Language, EL = English Language.
* =Yes/No Percentages refer to % of the row total for the subject concerned.

Table 6.30 indicates that six out of nine Islamic Religious Science teachers saw no relationship between Academic Achievement and Attitude toward the subject in the case of perceived low achievers, whilst in Arabic Language and English Language, a large proportion of the teachers believed there is such a relationship for this ability group.

In the case of perceived moderate and high achievers, two thirds of respondents in Islamic Religious Science saw no relationship between Academic Achievement and Attitude toward the subject while in Arabic Language and English Language, the reverse was found; belief in such a relationship was expressed by two thirds of the teachers surveyed.

The chi-square results in the table show that at $p=< 0.05$, there is no significant relationship between teachers' perceptions of their students as low or moderate and high achievers, and their perception that students' Academic Achievement is related to their Attitude toward the Subject.

6.7.3 Relationship between Academic Achievement and Quality of Teacher

Regarding the significance or otherwise of the distribution of teachers' Yes/No responses to the question whether they believed Academic Achievement to be related to Quality of Teacher, the relevant data are shown in Table 6.31.

Subject	Quality of teacher					
	Yes	No	No.	DF	X^2	P
IRS	11	30	41	1	8.80	.003
AL	9	32	41	1	12.9	.0003
EL	7	24	31	1	9.32	.002
F Test p = .860 (non-significant)						

Table 6.31 Teachers' belief that students' AC is or is not related to the Quality of Teacher, for the three academic subjects, IRS, AL and EL.

As the table shows, in each, the majority of teachers saw no relationship between Academic Achievement and Quality of Teacher in Islamic Religious Science, Arabic Language and English Language. The p values in the table are statistically significant at p=< 0.05; therefore, the null hypothesis that there is no significant difference between the number of teachers who perceive there is a relationship between student achievement and teacher quality, and those who do not, is rejected.

No significant differences in perception between the three groups were revealed by an F-test (p= >0.05). among teachers of all three subjects, there is a surprising view that teacher quality does not affect Academic Achievement.

Data regarding the relationship between teachers' perceptions that student Achievement is related to the Quality of the Teacher, and their perceptions of students' Achievement, are presented in Table 6.32, below.

AC	QT								
	IRS			AL			EL		
	Yes	No	T- Row	Yes	No	T- Row	Yes	No	T- Row
Low	2	7	9	1	7	8	2	5	7
	(22 %)*	(78 %)	(22 %)	(13 %)	(88 %)	(22 %)	(29 %)	(71 %)	(23)
Moderate & High	9	23	32	8	25	33	5	19	24
	(28 %)	(72 %)	(78 %)	(24 %)	(76 %)	(81 %)	(21 %)	(79 %)	(77 %)
T- Column	11	30	41	9	32	41	7	24	31
	(27 %)	(73 %)	(100 %)	(22 %)	(78 %)	(100 %)	(23 %)	(77 %)	(100 %)
Result of Chi-square	X^2= .12467 P= .72402			X^2= .51822 P= .47160			X^2= .18562 P= .66659		

Table 6.32 The relationship between students' AC and QT in view of the teachers in three academic subjects IRS, AL & EL (N=41, 41 & 31 respectively). AC = Academic Achievement, QT - Quality of Teacher, IRS = Islamic Religious Science, AL = Arabic Language, EL = English Language.
* = Yes/No Percentages refer to % of the row total.

Table 6.32 shows that the majority of teachers in all three academic subjects who perceived student Achievement as low, did not attribute the level of Achievement to Quality of Teacher (7/9, 7/8 and 5/7 teachers for Islamic Religious Science, Arabic Language and English Language respectively).

For perceived moderate and high achievers, too, the majority of teachers saw no relationship between Academic Achievement and Quality of Teacher, for the three academic subjects, Islamic Religious Science, Arabic Language and English Language (72%, 76% and 79% respectively).

A Chi-square test was carried out, to test the null hypothesis that there is no significant association between teachers' perceptions of student Academic Achievement, and their belief in a relationship between Achievement and Quality of Teacher, for the three academic subjects, Islamic Religious Science, Arabic Language and English Language. The p-values shown in the table are all non-significant at the 0.05 level. Therefore, for each academic subject, the null hypothesis can be accepted.

6.7.4 Relationship between Academic Achievement and Quality of The Book

The outcome of a chi-square test for significance in the distribution of teachers' Yes/No responses to the question whether they believed Academic Achievement to be related to Quality of Book, for individual subjects, is shown in Table 6.33.

Subject	Quality of the Book					
	Yes	No	No.	DF	X^2	P
IRS	17	24	41	1	1.19	.274
AL	10	31	41	1	10.75	.001
EL	13	18	31	1	.80	.35
F-test p = .185 (non-significant)						

Table 6.33 Teachers' belief that students' AC is or is not related to the Quality of the Book, for the three academic subjects, IRS, AL and EL.

Because an F-test revealed no statistically significant differences (at p = < 0.05) between teachers of the three subjects, in their view regarding the relationship between Academic Achievement and the Quality of Book (p = >0.05), it is not valid to look at the row values.

Teachers' perceptions of their students' achievement and their perceptions that Achievement is related to the quality of textbook content (Quality of the Book) are presented in Table 6.34 below.

AC	QB								
	IRS			AL			EL		
	Yes	No	T- Row	Yes	No	T- Row	Yes	No	T- Row
Low	3	6	9	3	5	8	3	4	7
	(33 %)*	(67 %)	(22 %)	(38 %)	(63 %)	(20 %)	(43 %)	(57 %)	(23 %)
Moderate & High	14	18	32	7	26	33	10	14	24
	(44 %)	(56 %)	(78 %)	(21 %)	(79 %)	(81 %)	(42 %)	(58 %)	(77 %)
T- Column	17	24	41	10	31	41	13	18	31
	(42 %)	(59 %)	(100 %)	(24 %)	(76 %)	(100 %)	(42 %)	(58 %)	(100 %)
Result of Chi-square	X^2= .31403 P= .57522			X^2= .92631 P= .33582			X^2= .00315 P= .95521		

Table 6.34 The relationship between students' AC and QB in view of the teachers in three academic subjects IRS, AL and EL (N=41, 41 and 31 respectively). AC = Academic Achievement, QB = Quality of Book, IRS = Islamic Religious Science, AL = Arabic Language, EL = English Language.
* = Yes/No Percentages refer to % of the row total.

The above table shows that the majority of teachers in each subject saw no relationship between perceptions of Academic Achievement and Quality of the Book, both for low and for moderate and high achievers, the largest percentage of denial of such a relationship being for teachers of Arabic Language who saw their students as moderate or high achievers.

Chi-square was used to test the null hypothesis that there is no significant association between teachers' perceptions of Academic Achievement and their belief in a relationship between Academic Achievement and Quality of Book, in the three academic subjects.

The p-values shown in the table are all non-significant. Therefore, the null hypothesis can be accepted; there is no significant association between teachers' perceptions of their students' Academic Achievement and their belief in a relationship between Academic Achievement and Quality of the Book, in any of the subjects.

6.7.5 Relationship between Academic Achievement and Perceived Use of Teaching Aids

Table 6.36 shows the outcome of a chi-square test of significance in the distribution of teachers' Yes/No responses, in relation to whether they used Teaching Aids (use of Teaching Aids is a composite variable based on the aggregate of teachers' responses regarding a range of Teaching Aids). Thus, whereas the previous questions concerned teachers' beliefs about students, this section deals with teachers' perceptions of what they themselves do or do not do.

Subject	Teaching Aids					
	Yes	No	No.	DF	X^2	P
IRS	17	24	41	1	1.19	.274
AL	15	26	41	1	2.95	.085
EL	28	3	31	1	20.16	.0000
F-test p = .008 EL > (IRS, AL)						

Table 6.35 Teachers' belief that they do or do not use Teaching Aids, for the three academic subjects, IRS, AL and EL.

It can be seen from the table that whereas, for Islamic Religious Science and Arabic Language, there were more teachers who said they did not use Teaching Aids, than who said they did, while in English Language the reverse was the case. The difference in the numbers answering Yes and No was, however, significant (at $p = < 0.05$) only for one subject, English Language.

ANOVA revealed significant differences in the perceptions of the three subject groups, regarding the use of Teaching Aids.

Scheffe's test confirmed that at the 0.05 level, English Language teachers were significantly more likely than teachers of the other two subjects to see themselves as using Teaching Aids.

Table 6.36 shows the relationship between teachers' perceptions that they do, or do not use Teaching Aids, and their perception of students' Academic Achievement.

AC	TA								
	IRS			AL			EL		
	Yes	No	T- Row	Yes	No	T- Row	Yes	No	T- Row
Low	5	4	9	1	7	8	6	1	7
	(56 %)*	(44 %)	(22 %)	(13 %)	(88 %)	(20 %)	(86 %)	(14 %)	(23 %)
Moderate & High	12	20	32	14	19	33	22	2	24
	(38 %)	(63 %)	(78 %)	(42 %)	(58 %)	(81 %)	(92 %)	(8 %)	(77 %)
T- Column	17	24	41	15	26	41	28	3	31
	(42 %)	(59 %)	(100 %)	(37 %)	(63 %)	(100 %)	(90 %)	(10 %)	(100 %)
Result of Chi-square	X^2= .94349 P= .33138			X^2= 2.48525 P= .11492			X^2= .21967 P= .63929		

Table 6.36 The relationship between students' AC and teachers' use of TA in view of the teachers in three academic subjects IRS, AL and EL (N=41, 41, 31 respectively). AC = Academic Achievement, TA - Teaching Aids, IRS = Islamic Religious Science, AL = Arabic Language, EL = English Language.
* = Yes/No Percentages refer to % of the row total.

Table 6.36 indicates that of teachers who perceived their students' Academic Achievement as low, those in Islamic Religious Science were almost equally divided between those who did and did not perceive themselves as using Teaching Aids, and for Arabic Language, only one teacher claimed to use Teaching Aids. In the case of English Language, in contrast, there was only one teacher who did not claim to use Teaching Aids.

Among teachers who rated Student Achievement as moderate to high, the majority for Islamic Religious Science and Arabic Language said they did not use Teaching Aids, whilst or English Language, use of Teaching Aids was reported by all except two of the sample (over 90%).

The Chi-square test indicated that the null hypothesis that there is no significant association between teachers' perceptions of the level of their students' Academic Achievement and their perception that they use Teaching Aids can be accepted for all subjects.

6.7.6 Relationship between Academic Achievement and Teaching Methods

The significance or otherwise of the distribution of teachers' Yes/No responses in relation to whether they used varied teaching Methods is indicated in Table 6.37.

Subject	Teaching Methods					
	Yes	No	No.	DF	X^2	P
IRS	6	35	41	1	20.51	.000
AL	5	36	41	1	23.43	.000
EL	11	20	31	1	2.61	.12
F-test p = .028 English Language > (IRS, AL)						

Table 6.37 Teachers' belief that they used varied Teaching Methods, for the three academic subjects, IRS, AL and EL.

The table shows that the majority perception among teachers that they did not use varied Teaching Methods is statistically significant at $p = < 0.05$, for Islamic Religious Science and Arabic Language, though not for English Language where, statistically speaking, an equal number of teachers said they did and did not use varied Teaching Methods.

An F-test confirmed the difference in perception between teachers of the three subject groups.

Table 6.38 shows the relationship between students' Academic Achievement as perceived by teachers, and teachers' perception that they use, or do not use, a variety of teaching methods.

AC	TM								
	IRS			AL			EL		
	Yes	No	T- Row	Yes	No	T- Row	Yes	No	T- Row
Low	0	9	9	0	8	8	3	4	7
		(100%)	(22 %)		(100%)	(20 %)	(43%)	(57%)	(23 %)
Moderate & High	6	26	32	5	28	33	8	16	24
	(19%)*	(81%)	(78 %)	(15%)	(85 %)	(81 %)	(33%)	(67%)	(77 %)
T- Column	6	35	41	5	36	41	11	20	31
	(15 %)	(85%)	(100%)	(12%)	(88%)	(100%)	(36%)	(64%)	(100%)
Result of Chi-square	X^2= 1.97679 P= .15973			X^2= 1.38047 P= .24002			X^2= 1.77478 P= .18279		

Table 6.38 Relationship between students' AC and TM in view of the teachers in three academic subjects IRS, AL a EL (N=41, 41 and 31 respectively). AC = Academic Achievement, TM = Teaching Method, IRS = Islamic Religio Science, AL = Arabic Language, EL = English Language.
* = Yes/No Percentages refer to % of the row total.

The above table indicates that among teachers who perceived students as low achievers, none reported using a variety of Teaching Methods in Islamic Religious Science and Arabic Language, and less than half the teachers in English Language reported using varied Teaching Methods. Among teachers who rated student achievement as moderate and high, very few (6/32, 5/33 and 8/24 for Islamic Religious Science, Arabic Language and English Language respectively) claimed to use varied Teaching Methods.

Chi-square revealed no significant relationship between teachers' perceptions of student Academic Achievement and their perceptions of themselves as using a variety of Teaching Methods, for any of the three subjects, Islamic Religious Science, Arabic Language and English Language.

6.7.7 Relationship between Academic Achievement and Student Participation

Table 6.39 shows the outcome of a chi-square test of the significance of the distribution of teachers' Yes/No responses in relation to whether they perceived students to participate in lessons.

Subject	Students' Participation					
	Yes	No	No.	DF	X^2	P
IRS	19	22	41	1	.22	.64
AL	17	24	41	1	1.12	.27
EL	11	20	31	1	2.61	.12
F-test p = .651 (non-significant)						

Table 6.39 Teachers' belief in the existence of student participation, for the three academic subjects, IRS, AL and EL. (N = 41, 41 and 31 respectively).

It can be seen from the table that none of the p-values is significant at $p = < 0.05$. Thus, for teachers of each of the three academic subjects, there is no statistical evidence that the distribution of their responses is anything other than random. In other words, there is no evidence to suggest that teachers do, or do not, perceive their lessons as characterised by student participation.

ANOVA revealed no significant difference in perception between teachers of the three subject groups (p = .651).

The relationship between students' Academic Achievement as perceived by teachers, and teachers' belief that students do, or do not, participate in lessons is shown in Table 6.40.

AC	SP								
	IRS			AL			EL		
	Yes	No	T- Row	Yes	No	T- Row	Yes	No	T- Ro
Low	0	9	9	1	7	8	3	4	7
		(100 %)	(22 %)	(13 %)	(88 %)	(20 %)	(43 %)	(57 %)	(23 %
Moderate & High	19	13	32	16	17	33	8	16	24
	(59 %)*	(41 %)	(78 %)	(49 %)	(51 %)	(81 %)	(33 %)	(67 %)	(77 %
T- Column	19	22	41	17	24	41	11	20	31
	(46 %)	(54 %)	(100 %)	(42 %)	(58%)	(100 %)	(36 %)	(64 %)	(100
Result of Chi-square	X^2= 9.95881 P= .00160			X^2= 3.43532 P= .06382			X^2= .21472 P= .64309		

Table 6.40 The relationship between students' AC and SP in view of the teachers in three academic subjects IRS, and EL (N=41, 41 and 31 respectively). AC = Academic Achievement, SP = Student Participation, RS = Isla Religious Science, AL = Arabic Language, EL = English Language. * = Yes/No Percentages refer to % of row total.

The above table indicates that all Islamic Religious Science teachers and the majority of Arabic Language and English Language teachers believed there is a lack of Student Participation for the students they viewed as low achievers, though English Language teachers appeared to be more evenly divided on this question than those of the other two subjects.

For teachers who perceived their students as moderate and high achievers, Student Participation in lessons was believed to exist by 59% of Islamic Religious Science teachers, but by 49% teachers in Arabic Language and only 33% in English Language.

A Chi-square test revealed no significant relationship between teachers' perceptions of student Academic Achievement and their belief that students participated in lessons for Arabic Language and English Language, but the relationship was significant for Islamic Religious Science. In other words, Islamic Religious Science teachers who perceived students as not participating in lessons were more likely to perceive them as low achievers.

6.7.8. Summary of findings from Teacher Questionnaire

Table 6.41 summarises the questionnaire findings regarding the beliefs of teachers of Islamic Religious Science, Arabic Language and English Language that certain factors influence students' Academic Achievement.

Variable	Group	Yes	No	Sig (p = 0.05)
AM	IRS	19	22	NS
	AL	28	13	S
	EL	23	8	S
	F-test p = 0.031 (AL, EL) > IRS			
AT	IRS	14	21	S
	AL	28	13	S
	EL	22	9	S
	F-test p = .001 (EL< AL) > IRS			
QT	IRS	11	30	S
	AL	9	32	S
	EL	7	24	S
	F-test p = .860 (NS)			
QB	IRS	17	24	NS
	AL	10	31	S
	EL	13	18	NS
	F-test p = .188 (NS)			

Table 6.41 Summary of teachers' responses regarding possible relationships between student Achievement and other variables. AM = Achievement Motivation, AT = Attitude toward Subject, QT = Quality of Teacher, QB = Quality of Book.

The table shows that the majority of teachers in all three subjects did not perceive students' Academic Achievement as related to Quality of Teacher or Quality of Book, though for Quality of Book, the finding was significant in relation to Arabic Language only. For Achievement Motivation and Attitude to Subject, there was a difference between Islamic Religious Science teachers and those of other subjects. Islamic Religious Science teachers showed no clear belief regarding a relationship between Achievement Motivation and Academic Achievement, and a significant majority denied such a relationship for Attitude toward Subject. In contrast, both groups of language teachers thought these variables were related to Academic Achievement.

For each of the variables, as indicated in Tables 6.26, 6.29, 6.31 and 6.33, teachers' belief in an association between that variable and the level of student Academic

Achievement, was not significantly associated with their perception of students' Academic Achievement. In other words, teachers maintained their beliefs as to the factors that affect student Academic Achievement, irrespective whether they saw their students as low or moderate-high achievers.

Table 6.42 summarises the questionnaire findings regarding teachers' perceptions of the classroom environment, in terms of their use of Teaching Aids, use of varied Teaching Methods, and the existence of Student Participation in lessons.

Variable	Group	Yes	No	Sig (p = 0.05)
TA	IRS	11	24	NS
	AL	15	26	NS
	EL	28	3	S
	F-test p = .008 EL15 > (IRS, AL)			
TM	IRS	6	35	S
	AL	5	36	S
	EL	11	22	NS
	F-test p = .028 EL> (IRS, AL)			
SP	IRS	19	22	NS
	AL	17	24	NS
	EL	11	20	NS
	F-test p = .651, NS			

Table 6.42 Summary of teachers' responses regarding their perceptions of aspects of the classroom environment. TA = Teaching Aids, TM = Teaching Methods, SP = Student Participation.

The table shows that teachers were in agreement on the subject of Student Participation, in that for each subject, more teachers reported that such participation did not occur in their lessons, than that it did. The pattern of responses was, however, not statistically significant. For the other two variables, there were differences between the groups' Use of Teaching Aids, and varied Teaching Methods was reported by significantly more teachers of English than of Arabic or Islamic Religious Science.

As indicated in Tables 6.35, 6.37 and 6.39, teachers' perceptions of these variables was not significantly related to their perceptions of students' Academic Achievement, except for an association between perceptions of non-participation and perceptions of low Academic Achievement, for Islamic Religious Science teachers only.

6.7.9. Implications of Findings for Questionnaire Reliability

A striking feature of the results presented in Tables 6.28, 6.30, 6.32, 6.34, 6.36,6.38 and 6.40 is the similarity between the frequency values in corresponding cells. This feature can be seen more clearly in Table 6.43 below.

Variables	Level	IRS			AL			EL		
		Yes	No	Tot	Yes	No	Tot	Yes	No	Tot
AC/AM	Low	5	4	9	6	2	8	6	1	7
	Mod/High	14	18	32	22	11	33	17	7	24
AC/AT	Low	3	6	9	6	2	8	5	2	7
	Mod/High	11	12	32	22	11	33	17	7	24
AC/QT	Low	2	7	9	1	7	8	2	5	7
	Mod/High	9	23	32	8	25	33	5	19	24
AC/QB	Low	3	6	9	3	5	8	3	4	7
	Mod/High	14	18	32	7	26	33	10	14	24
AC/TA	Low	5	4	9	1	7	8	6	1	7
	Mod/High	12	20	32	14	19	33	22	2	24
AC/TM	Low	0	9	9	0	8	8	3	4	7
	Mod/High	6	26	32	5	28	33	8	16	24
AC/SP	Low	0	9	9	1	7	8	3	4	7
	Mod/High	19	13	32	16	17	33	8	16	24

Table 6.43 Frequency data summarised from Tables 6.28, 6.30, 6.32, 6.34, 6.36,6.38 and 6.40, showing similar values in corresponding cells.

The similarities evident in the table show a high level of consistency in responses from one questionnaire item to another. For example, in IRS, the distribution of Yes/No scores among teachers of perceived low achievers is the same for the variables AC/AM and for AC/TA (Yes=5, No=4). For Arabic Language, distribution patterns are identical for AC/AM and AC/AT. For English Language, distribution patterns are identical for AC/TM and AC/SP. From this it can be inferred that the questionnaire has good reliability as a measure of teachers' perceptions towards student Academic Achievement and variables which may or may not be associated with it.

6.8 Teachers' additional comments and suggestions

A large number of comments and suggestions were put forward by teachers of all subjects, but especially English, in the space left blank for that purpose. These are summarised in Table 6.44 below.

No.	Teachers' Comments and Suggestions	F	%
	Islamic Religious Science		
1	The IRS textbooks should be related to the student's daily life	35	23
2	The IRS curricula should match the students' capabilities	32	21
3	Reduce the number of topics studied in the term	30	
4	Revaluation of the programme for initial training of IRS teachers	25	16
5	More use should be made of teaching aids in IRS lessons	12	8
6	Reduce the teaching load (24 hours per week)	10	7
7	Any teacher not effective in his class should be dismissed	8	5
	Arabic Language		
1	In-service programmes should be provided for AL teachers	38	21
2	Revaluation of the programme for initial training of AL teachers	32	17
3	Qualified teachers and inspectors should be appointed	31	17
4	Teachers' non-teaching duties should be reduced.	30	16
5	The number of students in the class should be not more than 25	25	14
6	The AL curricula should match the students' capabilities	20	11
7	The elementary curriculum, which is the basis of future study, should be revised	7	4
	English Language		
1	In-service training programmes should be provided for EL teachers	30	14
2	Study of EL should begin in primary school	29	13
3	The curricula at the intermediate stage, which is the basis of future study, should be revised	28	13
4	Reduce the teaching load (24 hours per week)	27	13
5	Teachers' non-teaching duties should be reduced	23	11
6	A language laboratory and technicians should be provided	22	10
7	The programme for initial training of EL teachers should be revised	20	9
8	The number of students in the class should be not more than 20	18	8
9	Conversation should be made part of the curriculum	10	5
10	Reduce the number of topics studied in the term	8	4

Table 6.44 Teachers' responses to the open question (Number of sample 41 IRS, 41 AL and 31 EL. Number of responses 152 IRS, 183 AL, 215 EL).

As the table shows, teachers of all three subjects shared a number of common concerns. One point reflected in a number of responses from teachers of all subjects, was the need to revise the programme of initial teacher training (25,32 and 20 of responses in IRS, AL and EL respectively). The concerns for teacher ability expressed by Islamic Religious Science teachers (comment 7) and Arabic Language teachers (comment 3) could perhaps be seen as also related to this point. Also related is the recognition of a need for in-service training, expressed by teachers of Arabic Language and English Language.

Another area of concern was the curriculum. Islamic Religious Science teachers expressed a need to make textbooks more relevant to students' own lives. Both Islamic Religious Science and English Language teachers seemed to feel the curriculum is overloaded and suggested a reduction in the number of topics to be covered. Islamic Religious Science and Arabic Language teachers shared a concern that the curriculum be set at a level more appropriate to students' abilities. Arabic Language and English Language teachers seemed to feel that problems in teaching their respective languages were related to the inadequate foundation laid at the beginners' level (i.e. elementary school for Arabic Language and Intermediate school for English Language) and suggested that review of these basic levels was needed. Indeed, the majority of English Language teachers thought that English Language should be introduced into the school curriculum earlier, at the primary school level. About a third of the English Language teachers (10 comments from a sample of 31 teachers) suggested more focus on conversation.

Regarding administrative matters, there were calls for a reduction of teaching load (Islamic Religious Science and English Language), for smaller classes (Arabic Language and English Language) and for the non-teaching duties of teachers to be reduced (Arabic Language and English Language).

Some concern was also expressed regarding teaching aids; 12 of the 41 Islamic Religious Science teachers thought such aids should be used more, while English Language teachers specifically demanded the provision of language laboratories.

Teachers of different subjects appeared to differ in their priorities. For Islamic Religious Science, the main concerns were textbook relevance and the level of the curriculum, while use of teaching aids, reduction of teaching load and control of teacher quality were the least common suggestions.

For Arabic Language, the most frequently expressed concern was for provision of in-service training. There was, however, a high level of concern for all the issues raised, which were mentioned by at least half the teachers, with the exception of revision of the elementary curriculum, mentioned by just seven teachers.

In the case of English Language, the top three concerns were in-service training, starting English Language at primary school, and reforming the intermediate curriculum. The least mentioned issue was the need to reduce the number of topics covered.

These responses complement the data presented earlier in this chapter, with interesting insights into the issues of particular concern to teachers of Islamic Religious Science, Arabic Language and English Language, and which they appear to feel may be adversely affecting students' Attitudes to subject, Achievement Motivation and Academic Achievement.

The consistency of teachers' open comments with the views expressed in response to the interviews and the closed questionnaire questions lends support to the reliability of the research instruments.

6.9 Summary

This chapter has presented the findings from the empirical survey. Part One focused on students' Academic Achievement and on their perceptions of the affective and classroom environment variables addressed in the AMACT questionnaire. Part Two presented findings regarding teachers' perceptions of student Academic Achievement and factors they believed might affect it, as well as their perceptions of the classroom environment in terms of their use of teaching aids and varied teaching methods, and the extent to which they thought students were active participants in lessons.

Analysis of the students' AMACT responses revealed interesting between-subject differences for all variables. Interestingly, moreover, the pattern of these differences was not what might be expected in the light of modern teaching theory, in that the subject where Achievement Motivation, Attitude to Subject and Classroom Environment scores were lowest, i.e. English Language, was the one where use of Teaching Aids was said to be highest.

Also surprising, in that it runs counter to the trend of previous research, is the finding that students' Academic Achievement was not significantly associated with any other variable, though all other variables were significantly correlated, for each academic subject. The fact that all variables except Academic Achievement were significantly correlated in the expected direction lends support to the reliability of the survey.

Those teachers interviewed perceived students' Academic Achievement as generally low, and blamed students' poor Attitude to Subject and low Achievement Motivation, or teacher quality, though teachers' questionnaire responses revealed somewhat ambivalent feelings as to whether students' Academic Achievement is related to affective or classroom environment variables. Indeed, it may be that such a relationship does not exist in the Saudi context.

In relation to teachers' perceptions of their own teaching practices (use of teaching aids and variety in teaching methods) there were differences between the subject groups, in favour of English Language. Such differences were especially striking for Teaching Aids. In this respect, teachers' perceptions appeared similar to those of students. As for Student Participation, the findings from the teacher questionnaire and from students' responses to the Classroom Environment scale of the AMACT questionnaire, suggest that such participation is at a relatively low level in the subjects investigated here.

The open space left in both students' and teachers' questionnaires for additional comments and suggestions elicited large numbers of responses from both groups. These revealed a number of common concerns; teachers and students alike raised the issues of teacher quality (in teachers' case, reflected in concerns about training), the curriculum, and teaching aids.

These findings will be discussed further, in relation to relevant theory and previous empirical work, in the following chapter.

CHAPTER SEVEN
DISCUSSION OF FINDINGS

7.1 Introduction

7.2 Scores on the Study Variables

7.2.1. Academic Achievement

7.2.2. Achievement Motivation and Attitude toward the Subjects

7.2.3. Classroom Environment

7.2.4. Teaching Aids

7.3 Differences between Students of the Three Subjects

7.4 Correlations between the Study Variables

7.4.1. Relationships between Achievement Motivation, Attitude toward Subject,Classroom Environment and Teaching Aids

7.4.2. Relationships between Academic Achievement and other variables

7.5 Teacher Perceptions on Academic Achievement and other Variables

7.5.1. Academic Achievement and Achievement Motivation

7.5.2. Academic Achievement and Attitude toward the Subjects

7.5.3. Academic Achievement and the Quality of Teacher

7.5.4. Academic Achievement and Quality of Content of Book

7.5.5. Academic Achievement and Teaching Aids

7.5.6. Academic Achievement and Teaching Methods

7.5.7. Academic Achievement and Students' Participation

7.6. Comparison of Teachers' and Students' Perceptions

7.7. Summary

Chapter Seven

Discussion of Findings

7.1 Introduction

Whereas the previous chapter has provided a descriptive and statistical account of the questionnaire and interview outcomes, this chapter seeks to highlight the interesting issues raised by these results and to explore their significance in relation to the study questions and the literature reviewed earlier.

For the sake of clarity, the discussion in this chapter will be arranged into five main sections, corresponding broadly to the research questions (the structure is also similar to that of Chapter Six, facilitating comparison and cross-reference).

Thus, Section 2 of this chapter discusses the research findings related to the levels of scores obtained on the various study variables. Section 3 considers the differences between the three groups, Islamic Religious Science, Arabic Language and English Language. Section 4 explores issues related to the correlations between study variables, and Section 5 considers the perceptions of the teachers related to student achievement, participation, and the use of teaching aids and teaching methods in their respective subjects. The sixth section highlights some interesting similarities and differences in the perspectives of teachers and students.

7.2 Scores on the Study Variables

7.2.1. Academic Achievement

As shown in Chapter Six, Section 6.2.1., the students' Academic Achievement in Islamic Religious Science was evenly distributed among high, moderate and low levels of achievement, while in Arabic Language and English Language the majority of students, more than two thirds of the sample in each case, were measured low achievers. Very few students in either of the language subjects attained high achievement scores; 12.6% and 5.5% of the samples for Arabic Language and English Language respectively. Mean scores (by level; minimum = 1, maximum = 3) were 1.97, 1.44 and 1.35 for Islamic Religious Science, Arabic Language and English Language respectively (refer to Table 6.1).

From the interview of the teachers, as reported in Section 6.6.1., more than half of the teachers in Islamic Religious Science had the view that their students were low achievers and the rest thought they were moderate achievers. These perceptions of low achievement are consistent with the concerns expressed by Al-Najadet (1991), the Ministry of Education (1986a/1990) and the conference of Islamic Education (Umm Al-Qura University 1983), reported in Chapter One. However, the actual distribution of Academic Achievement scores in Islamic Religious Science is, with 32.2% of the sample in the high achievement category, somewhat more favourable than might be expected in the light of teachers' comments and earlier reports. This discrepancy raises a question whether the examinations on which the present study relied for assessment of student achievement were easier than in previous years. On the other hand, the difference may well be explicable in terms of differences in criteria adopted by different researchers when judging students' achievement as high, moderate or low, since the

criteria adopted by Al-Najadet and the other educationalists are not made explicit in their reports, nor were teachers in this study asked to give reasons for their perceptions. A basic problem of categorising Academic Achievement by levels is the lack of consistency of categorisation between subject areas, measures, or studies. It should also be noted that School Inspectors were quoted in Chapter One as suggesting that satisfactory test results did not necessarily equate with a good standard of performance in day-to-day lessons. Certainly, the Islamic Religious Science Achievement results reported in the present study are not so high as to imply that the concerns expressed by teachers and educationalists are unfounded.

As regards Arabic Language, the low Academic Achievement results reported in the previous chapter (see Tables 6.1) are consistent with both teachers' perceptions and concerns expressed in previous studies and reports. It will be recalled that half the teachers perceived students as generally low achievers and the other half perceived them as moderate achievers. Low Academic Achievement in Arabic Language has been claimed by, for example, Elsayed (1987), Azzaizea (1989), Al Kharrat (1995) and Al Rasheed (1996), though it is important to remember that their claims were not based on empirical evidence.

A similar correspondence between students' actual Academic Achievement levels as reflected in the examination, and their perceived achievement as reported by teachers, was found for English language. Low Academic Achievement levels in English, as reflected in examination grades, have also been reported by ABEGS (1983), Al Shabbi (1989) and Arishi (1995).

In general, then, the findings of this study provide some support for the views of teachers and educationalists that there is cause for concern about the levels of secondary school students' Academic Achievement in Islamic Religious Science, Arabic Language

and English Language. Whilst this study cannot show the reasons for students' unsatisfactory performance it may shed light on at least some of the complex web of factors which educationalists assume to be related to Academic Achievement and so contribute to the debate and suggest areas for further study.

7.2.2. Achievement Motivation and Attitude toward the Subjects

These two variables can conveniently be discussed together, because the patterns of scores were remarkably similar for both variables. Moreover, previous reports in the Saudi context have referred to both variables together, so that comparison of the study findings with the claims of those earlier reports would, if the two variables were taken in isolation, inevitably be somewhat repetitive.

Students' Achievement Motivation and Attitude toward Subject for the three subjects were mostly moderate. Mean scores for Achievement Motivation were 2.28, 1.97 and 1.84 for Islamic Religious Science, Arabic Language and English Language respectively, while corresponding scores for Attitude were 2.28, 1.92 and 1.84 (maximum = 3). Thus, the highest scores in each case were for Islamic Religious Science, while the lowest were in English Language. In Arabic Language and English Language, less than a quarter of the students were classified in the high band for Achievement Motivation and Attitude toward Subject, while some 40% of the students in Islamic Religious Science had scores in the high band for Achievement Motivation and Attitude toward Subject (See Table 6.2 for Achievement Motivation, and Table 6.3 for Attitude toward Subject).

These findings in the case of Islamic Religious Science do not support the claims of Al Shaffi (1993), that there is a lack of Achievement Motivation and poor Attitude toward Islamic Religious Science among the students attending secondary schools in Saudi

Arabia. It must be remembered, however, that, as indicated in Chapter One, Al Shaffi based his comments on the reports of the senior teachers attending an advanced training course on which Al Shaffi was one of the trainers; he did not himself visit the secondary schools to measure students' Achievement Motivation or Attitude toSubject.

In the case of Arabic Language and English Language, the study findings lend some support to the opinions expressed by previous writers. In the case of Arabic Language, for example, AOES (1987) and Nasroallah (1988) reported that students in secondary schools have low Achievement Motivation and negative Attitudes toward Arabic Language. In the case of English Language, similar claims of low Achievement Motivation and poor Attitude toward the subject have been made by Al Shaffi (1989) and Arishi (1995). In the present study, the highest percentage of Achievement Motivation and Attitude scores for both Arabic and English, were moderate, rather than low, but there were large numbers of students with low scores (almost a third of students, in the case of Arabic, and more than a third in the case of English), and relatively few with high scores.

The findings of this study cannot be compared directly with previous reports on Achievement Motivation and Attitude toward Subjects in K.S.A., as those reports seem to have been based on subjective, qualitative assessment, rather than experimental measurement. Moreover, evidence was presented in Chapter Three that suggested Achievement Motivation may be affected by other variables, such as family structure (Fontaine, 1994). Thus, there are several factors that can affect the consistency of results reported in different studies. What is important is that in this study, the findings on Achievement Motivation and Attitude toward Subjects, like those for Academic Achievement, suggest that there is some foundation for the concerns expressed by previous writers.

7.2.3. Classroom Environment

Table 6.4, showing the students' perceptions of the personalisation and participation in the Classroom Environment in the three subjects, Islamic Religious Science, Arabic Language and English Language, revealed that most students were classified in the moderate score band, though scores were highest in Islamic Religious Science and lowest in English Language (mean 2.05, 2.02 and 1.89 for Islamic Religious Science, Arabic Language and English Language respectively - Table 6.4).

In the case of Islamic Religious Science, this finding is inconsistent with the claim of Al Shaffi (1993), that there was an absence of participation in classroom activities among the students in the secondary schools in Saudi Arabia. This difference might be attributed to the same reason as the inconsistency with regard to Achievement Motivation and Attitude toward the Subject, namely, the difference between claims based on subjective perception and hearsay, and findings based on quantitative measurement.

The perceptions of the students, in the case of Islamic Religious Science, are also inconsistent with the perception of teachers; more than half claimed in interview that students never discuss their lessons in the classroom (Table 6.25) and 54% of questionnaire responses indicated a lack of student participation (Table 6.39).

The low Classroom Environment scores for English Language are inconsistent with the perceptions of teachers of English, expressed in interview, but consistent with the teachers' questionnaire responses, where 64% of teachers claimed a lack of student participation. They also support the claim of Al-Ahaydib (1986) regarding Saudi students' lack of participation in the English Language classroom.

The overall impression gained from the Classroom Environment results is that

participation in the Classroom Environment is not very high. This finding may perhaps be related to comments reported in Chapter Two, regarding the nature of teacher training and the continued reliance on traditional teaching methods.

In general, however, it is not possible to compare the Classroom Environment results obtained in this study with claims made in Saudi newspaper reports and journals, because previous studies in the Saudi context have tended to be observational, rather than measuring student perceptions, and have focused on different aspects of the classroom environment, namely, Teaching Aids and Teaching Methods. (The former, which was measured separately from Classroom Environment in this study, is discussed below, while the latter will feature in discussion of teachers' perceptions and beliefs regarding their teaching and its relationship with student Academic Achievement, in a later section). Nor is it possible to compare these results with non-Saudi studies, as no specific scores for Classroom Environment were stated in the studies reviewed; moreover, definitions of Classroom Environment and elements included in it, differ from one study to another.

7.2.4. Teaching Aids

From students' responses regarding the use of Teaching Aids, Section 6.2.5 (Table 6.5), it appeared that the most used Teaching Aids in the three subjects were charts and models, while the least used was language laboratory, though tape recorders were also little used and visits to the library were perceived as being infrequent. Thus, in general, the level of use of teaching aids was perceived as being low, as shown in Table 6.6, though it was perceived as higher for English Language than for Islamic Religious Science and Arabic Language (mean 1.35, 1.34 and 1.55 for Islamic Religious Science, Arabic Language and English Language respectively).

This finding is consistent with the teachers' perspective on the use of Teaching Aids in the three academic subjects (Section 6.6.2); they reported that the use of teaching aids was very low.

Both students' and teachers' perceptions are in congruence with the situation reported by Al Gamdi (1991) and Al Saif (1996) who commented on the lack of Teaching Aids in Islamic Religious Science, and of Al-Ahaydib (1986) and Arishi (1995) who noted a lack of use of Teaching Aids in general, and of language laboratories in particular, in English lessons.

Other criticisms regarding non-use of Teaching Aids have previously been raised in Saudi Arabia by Massiajas and Jarrar (1988), and by Al Hukbani (1991). This does not mean, however, that Saudi teachers are not interested in Teaching Aids or willing to use them; in answer to interviews (Arabic Language and English Language) and the open section (Islamic Religious Science), teachers of all subjects suggested more use of Teaching Aids should be encouraged. Two other explanations for non-use or low use of Teaching Aids may be suggested:

1- Teachers may feel they do not have time to use Teaching Aids, because of curriculum overload. This explanation would be in line with the findings of Al Sharhan (1989).
2- Teachers may lack knowledge and confidence to use Teaching Aids because of deficiencies in teacher training programmes.

Such claims have previously been made by Hurst (1983), Bettex (1984) and Schriffman (1986). Moreover, this view is supported in a Saudi context by the findings of Al Hakami (1992) who, as reported in Chapter Three, found the coverage of this topic in teacher colleges to be excessively theoretical, so that students entered teaching without having acquired practical competence in the use of Teaching Aids.

7.3 Differences in Students' Responses between the Three Subjects

It is noticeable that for Achievement Motivation, Attitude to Subject and Classroom Environment, Islamic Religious Science students scored significantly higher on the AMACT questionnaire than those of Arabic Language and English Language (Table 6.13). Islam, as indicated in Chapter Two, is a deeply-rooted belief and value-system, which lies at the heart of Saudi education and culture. It may be, therefore, that the higher Achievement Motivation and Attitude toward Subject scores for Islamic Religious Science have a cultural explanation. Students might, by belief and upbringing, be expected to have high attitudes toward Islamic Religious Science. Even if some students did not have high attitudes towards Islamic Religious Science as an academic subject, they may not have liked to say so, in case this was interpreted as being a criticism of Islam itself. This may also be why none of the Islamic Religious Science teachers interviewed said their students had a poor attitude to the subject, in contrast with the high number of Arabic Language and English Language teachers, among those interviewed who criticised their students' attitude to their subjects.

With regard to Teaching Aids, students' responses in English Language were significantly higher than in Islamic Religious Science and Arabic Language (moreover, English Language teachers reported greater use of Teaching Aids, and more interest in using Teaching Aids such as tape-recorder than other teachers). The fact that English Language students scored lowest in Academic Achievement, Achievement Motivation, Attitude Toward Subject and Classroom Environment, although this was the subject with the highest score for the use of Teaching Aids, is contrary to the claims in the literature (e.g. Atkinson, 1966; Rowntree, 1982; Bloom, 1956 and Obanya, 1983), that use of Teaching Aids increases students' interest, motivation and achievement. It could be that even in English Language, use of Teaching Aids is too low to make a real

difference to students' attitudes and learning (though this explanation is not supported by the large proportion - 90% - of teachers who claimed to use teaching aids, Table 6.35); or that the additional use of Teaching Aids in English Language is not effective because of poor quality aids or inexpert use of them. It could also be that the difference in scores between English Language and Arabic Language, like those between English Language and Islamic Religious Science is, at least in part, explicable in terms of culture. Arabic, after all, has advantages over English Language, from Arab students' perspective, in being the mother-tongue, the language of the Quran, and a language widely promoted in the society as a symbol of Arab culture, nationhood, and unity. Moreover, students are likely to find English Language, as a foreign language, more "difficult" than Arabic Language (which may impede their participation in lessons) and many students may well feel that it has no relevance to their lives now, or their expectations for the future. All these factors may help to account for the particularly low achievement and affective outcomes in English Language, compared to the other two subjects. This finding, rather than the reverse or no relationship, tends to support the validity of the AMACT questionnaire and the reliability of the responses.

Some interesting points are also raised by the findings related to differences among the groups in the use of particular Teaching Aids. Use of models, tape recorder and language laboratory were significantly lower for Islamic Religious Science than for Arabic Language and English Language. The finding regarding the language laboratory is, perhaps, not surprising; one might expect such facilities to be used primarily for language teaching. On the other hand, one of the topics studied in Islamic Religious Science is the correct recitation of the Quran, where use of tape recorders and perhaps even the language laboratory would be invaluable for allowing students to hear and practise the correct intonation.

Where Islamic Religious Science did appear to score over both Arabic Language and English Language was in the use of libraries. It is, however, perhaps surprising and cause for concern that students reported so little use of libraries in Arabic Language and English Language. A school library should, ideally, be able to provide students with a range of supplementary reading material in their own language and any foreign language studied, to consolidate their reading skills, extend their vocabulary, enrich their literary and cultural awareness, and simply enable them to read for pleasure. The low level of library use reported in Arabic Language and English Language suggests that students' reading may be largely confined to the prescribed textbook, and also that the habit of reading for enjoyment is not cultivated. In this respect, facilities and teaching methods in some schools, at least, may not be conducive to the attainment of espoused educational objectives. Whilst no inventory of library facilities was made in the present study, it is the researcher's experience that school libraries are well supplied with books on Islamic Religious Science but contain few books on Arabic and English Languages. It was noted in Chapter Two that the teaching of both Arabic and English is intended, inter alia, to develop reading ability, literary appreciation, and the ability to use language for information gathering. It is difficult to see how these objectives can be fully achieved without a range of reading materials and the encouragement of library use.

7.4 Correlations between the Study Variables

7.4.1. Relationships between Achievement Motivation, Attitude Toward Subject, Classroom Environment and Teaching Aids

Section 6.4.3 showed that there are significant correlations between Achievement Motivation and Attitude toward the Subjects, Classroom Environment and Teaching Aids. The findings are consistent with the results reported by previous researchers, for example, Cannon and Simpson (1985), Talton & Simpson (1986), Olshtain et al. (1990), Mormori (1993) and Atwater et al. (1995) regarding Achievement Motivation and Attitude toward the Subjects; Knight & Waxman (1990) and Waxman & Huang (1996-1997) in the case of Achievement Motivation and Classroom Environment.

The correlation values obtained in the present research, for the association between Achievement Motivation and Attitude toward Subjects were .62, .73 and .77 for Islamic Religious Science, Arabic Language and English Language respectively. These were higher than those found in the studies of Talton & Simpson ($r = .42$) for Science and Olshtain et al ($r = .50$) for English Language. Some other researchers, however, have reported a range of correlations for different grade levels, gender and academic subjects, including some values as high as those found in this study. Mormori found correlations in the range .45 to .71 for English Language, while Cannon and Simpson's correlations in Science ranged from .48 to .77.

For the association between Achievement Motivation and Classroom Environment, the correlations found in this study were slightly lower than those for Achievement Motivation and Attitude toward Subject ($r=.43$, .50 and .46 for Islamic Religious Science, Arabic Language and English Language respectively) but a little higher than the finding of Knight & Waxman ($r = .31$) for the same variables in Social Studies.

Significant positive correlations were also found between Attitude toward the

Subject and Classroom Environment and Teaching Aids in the three academic subjects, Islamic Religious Science, Arabic Language and English language. In respect of Attitude Toward Subject and Classroom Environment, the study findings are in line with those reported by Myers & Fouts(1992); Sinclair (1994) and Chidolue (1996). At r = .53, .57 and .59 for Islamic Religious Science, Arabic Language and English Language respectively, the correlations found in this study are higher than those found by Sinclair in Science (r = .34 and r = .40 for black and Hispanic groups respectively), but lower than that found by Chidolue in Biology (r = .77). Thus, the findings of the study in relation to Achievement Motivation, Attitude toward Subject and Classroom Environment are in good agreement with the literature. The findings of the present study with regard to significant relationships between Teaching Aids and other variables (albeit with low correlation coefficient) cannot easily be compared with findings from past research, as Teaching Aids in this study was a composite variable and no correlations between Teaching Aids as a similar composite variable and other variables were reported in the literature review. Teaching Aids have often been investigated in observational studies, simply to report whether or not they were used. At other times, they have been encompassed within the Classroom Environment category. In Waxman and Huang's (1996-97) study, Achievement Motivation was found to be significantly related to Classroom Environment which, in the context of that study meant, primarily, differential levels of technology use. Thus, the findings of the present study regarding relationships among Achievement Motivation, Attitude toward Subject, Classroom Environment and Teaching Aids are in line with the general trend of previous research. As regards Teaching Aids, however, it should be noted that the composite variable used in this study might not be a very sensitive measure, and a more precise instrument would be needed for detailed study of the relationship of Teaching Aids to other variables.

7.4.2. Relationships between Academic Achievement and other variables

As indicated in Chapter Three, educationalists tend to be interested in variables such as Achievement Motivation and Attitude Toward the Subject because of an assumption, which appears to be supported by many empirical studies (Oliver, 1988; Wright, 1989; Olshtain et al, 1990; Schultz, 1993; Mormori, 1993; Freedman, 1997), that they are related to Academic Achievement. This assumption has certainly been made by Saudi educationalists (see Chapter One) and also appears to be held by many of the teachers interviewed for the present study, who expressed the belief that students' low Academic Achievement is caused by lack of motivation to achieve and a poor attitude toward the subject (Table 6.22). The same beliefs were apparent, for teachers of Arabic Language and English Language, in their questionnaire responses (see, for example, Tables 6.30 and 6.33). This brings us to a discussion of possibly the most surprising findings of the present study: those related to the relationship between Academic Achievement and each of the other variables investigated.

Table 6.18 shows that Academic Achievement was not significantly related to Achievement Motivation, Attitude toward the subjects, Classroom Environment or Teaching Aids in the three academic subjects, Islamic Religious Science, Arabic Language and English Language. These findings are in sharp contrast to the other high correlations found in other parts of the study. They do not support the assumptions of Al-Shaffi (1993), Nasroallah (1988), Arishi (1995) and Al Shabbi (1989) that poor Achievement Motivation and Attitude toward Subjects are to blame for Saudi students' low academic achievement, and they are also inconsistent with most other empirical studies. As indicated in Chapter Three, significant correlations have previously been found for Academic Achievement and Achievement Motivation by Muhammad Ali (1988) in English Language, Olshtain et al (1990) in English Language, Schujtz (1993)

in Maths and Reading, Mormori (1993) in English Language, Jegede (1994) in English Language and Al-Nabhani (1996) in Science. Some of these correlations are admittedly quite low, for example .17 in Jegede's study and .16 in that of Al-Nabhani. Muhammad Ali, however, reported a correlation at r=.29, and Schultz at r = .39, while Olshtain found a correlation as high as .50 and Mormori reported a range of r values from .29 to .79. For the relationship between Academic Achievement and Attitude toward Subjects, significant correlations have been found by Mohammad Ali (1988) at r = .30 for English Language, by Freedman (1997) at r=.36 for Science and by Al-Nabhani (1996) at r = .22 for Science, while Wright (1989) and Maqsud & Khalique (1991) found positive relationships that fell short of statistical significance for English and Maths respectively. In the case of Classroom Environment, a positive relationship with Academic Achievement has been reported by Waxman (1989) at r = .64 and by Chidolue (1996) at r = .47, for Biology.

There are, in the case of Attitude and Classroom Environment, a few studies which, like the present one, have found no significant correlation with Academic Achievement (Nasroallah, 1988 (in Arabic); Svanes, 1988 (second language); and Abouserie et al, 1992 (computers), for Attitude; and Payne, 1992 (Maths), for Classroom Environment). Nevertheless, it must be admitted that the findings of the present study run counter to the general trend of research findings, and are totally unexpected, especially as the correlations between other pairs of variables are consistent with other studies, as indicated in section 7.4.1.

The disparity between the findings of this study and those obtained by previous researchers may perhaps be attributed to one or more of the following:

1) There might be groups within the sample for which the Attitude Academic Achievement relationship is not the same, giving a zero net result, while the relationship for a particular group is significant. However, grouping students by school or by achievement level made no difference to the result, - indeed, in the case of Academic Achievement, the form of the scatterplots presented in section 6.4.1. had already suggested that this would be the case - so this explanation is not supported by the available evidence.

2) Some variables, and relationships between variables, may be mediated by gender. Maqsud & Khalique (1991), for example, found evidence that this was the case for the relationship between Achievement Motivation and Academic Achievement. This may to some extent explain a difference in findings between this study, conducted with an all-male sample, and previous studies (e.g. Schultz, 1993; Mormori, 1993; Jegede, 1994), where both male and female students were surveyed.

3) Most of the studies where significant correlations between Academic Achievement and Attitude toward Subject, Classroom Environment etc. have been found were carried out in the West, mainly the U.K. and U.S.A. Thus, there is a possibility that there are differences in the education systems which affect students differently, in terms of the attention they pay to classroom parameters, and how they respond to them. For example, Saudi Arabia has a very centralised system - curriculum, teaching methods and books are prescribed by the central authorities. So there may be little scope for differences in classroom parameters between schools, or for differences in the teaching style and methods of individual teachers. Students use the same books, cover the same units in the same order, do the same classroom exercises, etc. In some places where other studies were done (e.g. U.S., U.K.), there may be more autonomy for individual schools and teachers. In the U.K. for

example, although there is a centrally prescribed national curriculum, schools still have quite a lot of autonomy and flexibility in how they deliver it: what books to use, teaching methods, sequence of material, etc. In such a system, there might be more obvious differences between schools, between subjects, and between individual teachers, than in a more rigidly prescribed system. That could lead students to differ in their awareness of classroom parameters, and their reaction to them in the two systems.

Another feature of the Saudi education system is that although continuous assessment accounts for 30% of the student's final work for the school year, this component still tends to be based on traditional tests, mainly of memorisation. Al-Saif (1996) found that IRS was assessed primarily by written and oral tests. Al-Majed (1996), whose work was referred to in Chapter Two, has argued that teachers tend to gear their teaching towards the examinations, and that Saudi society places strong pressure on students to achieve exam success. Such a situation might cause Saudi students to pay less attention to classroom parameters than may be the case in an educational system where a wider variety of assessment methods is used. This issue of assessment in the Saudi school system and its possible impact on the present findings is discussed later in the chapter.

4) Another line of enquiry is that assessment methods used in the present study might have differed from those used in previous studies. For example, a study which assessed students' achievement by means of projects, homework, classroom activity etc., might obtain different results from one that relied on an end-of-year exam. A list of previous studies, with tests used and main findings, is presented in Table 7.1., below.

Name	Date	Countr	Test	Va	Sig.
Cannon & Simpson	1985	U.S.A.	Dev. specially for project, by 6 teachers in school system	AC & AM	No
					Yes
Chidolue	1996	Nigeria	Cons. by author	CE/AT/AC	Yes
				CE/AC	
Waxman	1989	U.S.A.	Standardised - Met. Reading Survey Test (Prescott et al, 1978)		Yes
					Yes
				CE/AT/AC	
					Yes
			External end-of-year exam	AT/CE	
Fisher et al	1995	Australia			
Freedman	1997	U.S.A.	Exam papers dev. by school district drawing on a question bank.	AT/AC	Yes
					Yes
			Annual promotional exams	AT & AC	
Maqsud & Khalique	1991	Botswana	Basic Skills Ach. Screener (Sonnershein, 1983)	AM & AC	Yes
					Yes
Schultz	1993	U.S.A.			Yes
			Iowa Achievement Test of Basic Skills	TM & AC	Yes
				TM & AM	
Nichols	1996	U.S.A.	Met. Ach. Test		No
				AM & AC	Yes
				CE & AC	
Payne	1992	U.S.A.	End-of-year exam scores		
				AT & AC	
			Standardised Test (Close Test)		No
Abouserie et al	1992	U.K.		AM & AC	Yes
			Ollen & Conrad, 1971.		
Mohammed-Ali	1988	U.K.			Yes
			Teacher exam	AT & AC	
			G.R.A. (Grade Point Average)	AT & AC	
Nasroallah	1988	K.S.A.		AT & AC	
Al-Nabhari	1996	Oman			

Table 7.1 Achievement Tests used, and Main Findings, for Previous Studies.

Source: Compiled by the researcher on the basis of the literature.

In fact, the table shows that none of the studies reviewed had based student assessment on homework etc. All had taken student Academic Achievement scores from a single test or examination. What was noticeable, however, was the degree of standardisation of the tests used in those studies that found significant correlations. Some used tests developed especially for the study, (e.g. Chidolue, 1996); some used external examinations (e.g. Fisher et al, 1995); some used standardised tests such as the Basic Skills Achievement Screener (Sonnenschein, 1983) used by Schultz (1993) or the Metropolitan Achievement Test (Payne, 1992). Freedman (1997) used examination papers which were set by the school district concerned, drawing on a question bank, had been proven valid and reliable over years of use, and were used throughout the school district.

This study has used students' Academic Achievement scores from the records of the Ministry of Education. As Chapter Two (Section 2.7) indicated, however, students' final scores are made up of two parts, mid-year and end-of-year. The mid-year exam is an internal one, set by the school teachers, while the end-of-year exam is an external one, set by the Ministry of Education. Moreover, the assessment for each semester is based not solely on the examination, but also includes an element of teacher assessment of the student's classroom performance. As a result, the Academic Achievement scores supplied to the researcher by the Ministry of Education were made up of the following elements:

35% = school examination, Semester 1

15% = class work, Semester 1 test

35% = Ministry of Education examination, Semester 2

15% = class work, Semester 2 test

Thus, the teachers were responsible, in total, for 65% of the assessment.

In Saudi Arabia there is no Examination Question Bank. Nor is there any specific mechanism for external moderation of school-based assessments, such as exists in the U.K., for example, for the marking of GCSE and 'A' level coursework. This raises the question whether a subjective element in teacher assessments and/or differences between schools and teachers in the difficulty or clarity of wording of internal exam papers may have affected the results, particularly as the Teacher Training programme does not provide training in assessment. Interestingly, of the studies reviewed in the literature, no significant correlations between Academic Achievement and other variables were found by Abouserie et al (1992), who used university students' end-of-year scores (i.e. internal assessment) as their measure of Academic Achievement, and by Nasroallah (1988) in Saudi Arabia who used teacher examination.

The possibility of a problem with the Saudi assessment system is supported by the comments of school inspectors of Islamic Religious Science (quoted in Chapter One) who asserted that they find many weaknesses in students' classroom performance, even though they gain satisfactory marks in tests, as well as the doubt among the teachers in this study as to the relationship between attitudinal and environmental variables, on the one hand, and Academic Achievement on the other.

Evidently, it is not possible at this stage to draw conclusions as to the reasons for the surprising findings of this part of the study. Some interesting issues have, however, been raised which clearly warranted further investigation.

The researcher therefore contacted the Saudi Ministry of Education to arrange a return visit to Saudi Arabia, in order to follow up the unexpected findings on student Academic Achievement by making further inquiries about the school-based portions of

the assessment. Arrangements were, accordingly, made to interview the official with special responsibility for student examinations and evaluation, Dr Abdulkhaleg Al-Khalaf.

Interestingly, it transpired that in 1997 (the year following the researcher's original investigation), concerns had been raised in the Ministry of Education, regarding discrepancies in the outcomes of assessment of Academic Achievement between the first and second semesters; scores from the school-based assessment forwarded to the Ministry at the end of Semester 1 were generally high, while scores in the standardised examination at the end of Semester 2 were much more widely distributed. Instructions had therefore been given to each Educational Directorate to look into the matter.

The various regional Directorates appear to have addressed the issue in different ways, though the outcomes have been similar.

The inquiry carried out by the Educational Directorate in the Central region (Ryadh) took the form of an investigation of the correlations between students' Academic Achievement scores for the two semesters for the final year of secondary school. Very low correlations were found between the two sets of scores: r= .08 for Islamic Religious Science, r=.13 for Arabic Language, and r = .40 for English Language. Thus, for all subjects, but especially for Islamic Religious Science, students' scores on the teacher assessment in Semester 1 bore little resemblance to their examination scores in Semester 2.

In the Western region (Jeddah - Makha), the Directorate of Education studied the difference between students' Academic Achievement scores in the two semesters, in terms of the percentage of students awarded the top grade (designated, Excellent). It was found that in English Language, 27.1% of students were graded Excellent in

Semester 1, compared with only .08% in Semester 2. In Arabic Language, 39% were graded Excellent in the first semester, compared with 22% in the second. For Islamic Religious Science, the proportion of Excellent-rated students was 67.4% in the first semester and 44% in the second.

The North (Madina - Tabook) and South (Jizan and Assir) regions both took the approach of investigating the Semester 1 scores of students who failed the Semester 2 examination. In the North, it was found that 55% of students who failed in the second semester had been awarded high grades in the first semester. In the South, scores in the first semester were said to be very high, but there were large numbers of failing students in the second semester. Of students who failed, 57% in Arabic Language and 69% in English Language had scored high marks in the first semester. (Interestingly, the problem was not confined to the subjects with which this study is concerned. For mathematics, 85% of students who failed the final examination had gained high marks in the teacher assessment).

Thus, there was a general finding of lack of correspondence between the marks students were awarded by their teachers, and the outcomes of the final examination. Such findings suggest some disparity in the standard of test and/or the system of marking between the two assessments, though they do not, in themselves, indicate which of the two sets of marks more accurately reflects students' learning. Of particular interest, therefore, are the reports from Directorates which, rather than simply comparing the two sets of scores, had sought to identify reasons for differences. The Educational Directorate in the Eastern Region (Damman, Dahran, Khobar) reported several reasons for Semester 1 marks being higher than those in Semester 2. (Note that percentages do not add to 100 because in some cases, more than one factor applied).

In 48% of cases, fault was found with the setting of the first semester examination (e.g.

not covering the whole curriculum); in 42% of cases, the Semester 1 examination was said to be too easy; in 32% of cases, teachers were said to have been unduly lenient in correcting school assessments; and in 20% of cases, it was found that teachers had coached students for the examination in private lessons, although this is officially not allowed.

In Taif, the location of the present study, similarly, the Directorate investigated the reasons for the disparity in student scores on the two semesters' assessments. They reported that in 68% of cases, the first semester examination was very easy; in 78% of cases, teachers were said to have shown bias in their marking, towards students who were helpful in class or did personal favours for them; and in 80% of cases, it was said, the school administrators encouraged teachers to mark leniently, because they wanted a high percentage of "success" in the GCSE.

These findings lend support to the researcher's interpretation of the present study findings as possibly reflecting a lack of reliability in the Academic Achievement scores, due to weaknesses in teachers' assessment of their students. (It should be remembered that the tests that were indicated and reliability tested for this study were the Ministry of Education examination papers; not the teacher assessments.

If there is a problem of validity and reliability in the teacher-based element of the assessment, this may be related, at least in part, in addition to the factors claimed above, to the very vague and generalised wording of many educational objectives, highlighted in Chapter Two. Many of the objectives are affective, or expressed in qualitative terms. If they were operationalised into more specific terms, assessment would be facilitated.

Even if the objectives were more specifically worded, however, the possibilities of teacher subjectivity and bias, or simply lack of understanding of assessment procedures,

remain. This is an issue which has received attention in other educational systems in recent years.

It is interesting, in this connection, to consider the U.K. experience of examination and assessment. In the U.K. as Murphy et al. (1996) note, there is a long-standing debate over whether examination grades represent, in any real sense, a dependable common index of educational achievement.

Examination grades may be regarded by the public as objective measures of educational attainment, but they are clearly heavily dependent on the values of those who create and operate them which, as Creswell (1996) points out, influence decisions concerning what is to be taught and judgement of the quality of pupils' responses.

Barnet (1988), discussing examination in the university context, noted that a disadvantage of requiring a teacher to examine his students is the danger of personal and social bias in assessment. He, like many educationists, considered that a safeguard against that danger is provided by external examination. Similar concerns have been expressed with regard to assessment at the primary and secondary levels. In recent years, the secretaries of state for Education in England and Wales have progressively reduced school discretion in decisions on teaching content, and moved away from assessment of students by the teacher, in favour of a national curriculum and a comprehensive standardised assessment programme.

A specially constituted body, the Task Group on Assessment and Testing (TGAT) was set up to advise on the practical considerations governing assessment within the national curriculum. Noting the absence, at the time of its deliberations, of any existing system that met all its criteria of being criterion referenced, formative, moderated and related to progression, TGAT proposed an entirely new system which would provide a means for

diagnostic and summative testing and recording of pupil achievement and for evaluation and reporting of the work of individual schools or Local Education Authorities. Assessment is related to attainment on various competencies, measured on a scale of "levels" from 1-10. Standardised testing and national reporting of student attainment takes place at the ages of 7, 11 and 14 via carefully planned and pilot-tested Standard Attainment Tasks (SATs) and at age 16 via the GCSE examinations. Between these ages, continuous assessment by the teacher takes place, but this is now based on standard criteria closely linked to Attainment Targets established under the National Curriculum. An important element of the system is moderation, defined by TGAT in its report (TGAT, 1987) as "the process of bringing individual judgements into line with general standards." Also highlighted is the need for teachers to be provided with in-service training to equip them with the necessary skills and techniques for continuous assessment, administration of standardised tests, and moderation (for a more detailed explanation of TGAT's aims working assumptions and proposals, critique of the model and an indication of how it has been modified over the years, see Appendix 9.

It should be noted, however, that the original TGAT proposals were a starting point which have subsequently been subject to change. TGAT's original proposals attached considerable importance to teacher involvement in assessment arrangements, and the extensive moderation procedures it proposed can be seen in that light, as a way of maintaining teacher involvement, with suitable safeguards. Since TGAT's original report, however, several major reviews have taken place with the intention of streamlining the National Curriculum and its assessment arrangements. The net effect of those changes has been to reduce teacher involvement and increase reliance on tests.

When students in England and Wales finish their compulsory education (around age 16), they take examinations leading to the General Certificate of Secondary Education

(GCSE), linked to the national curriculum. They may then continue on to a two-year course of specialised study, usually in three subjects, leading to the Advanced (A-level) examinations. Regional and university-affiliated boards develop and administer the GCSE and A-level examinations. The School Examinations and Assessment Council, established by Parliament, approves syllabuses and examinations for the GCSE. Although both GCSE and A-level grades are based in part on project or coursework assessed by the teacher, in an effort to ensure comparability of standards, these assessments are carefully and extensively monitored and externally moderated. Moreover, there has been a trend in recent years, because of concerns about standards and comparability, to reduce the teacher's contribution in the overall assessment, which has in the past been as high as 50% but now is typically around 20%.

The issue of examination and assessment is a complex and controversial one and, as indicated above, is value-laden. Views as to what is to be assessed, and how, will vary from one time and place to another. Where students' future education and careers depend on their performance on some measure of Academic Achievement, however, any reason for lack of confidence in the assessment instrument and procedures is cause for concern. This is an issue which would benefit from further investigation in the Saudi context, and one which could have far-reaching implications for the education system as a whole.

7.5 Teacher Perceptions on Academic Achievement and other Variables

7.5.1. Academic Achievement and Achievement Motivation

Section 6.7.1. revealed that a significant majority of teachers of Arabic and English languages believed that there is a relationship between Achievement and Achievement Motivation.

In this respect, their belief is consistent with the views of many writers such as Tyler and Vasu (1995) who reported that the concept of Achievement Motivation has value for educators, giving them insight into "how students develop the problem-solving and higher order thinking skills necessary for survival in the 21st century" (p 99).

Educators who have an understanding of Achievement Motivation and its inter-relationship with Academic Achievement may be more able to create a learning environment and adopt teaching strategies that are conducive to student success.

McClelland (1985) stated that Achievement Motivation plays an important role in determining how well students do. He indicated that psychologists have long realised that if they want to know how well something will be done, it is important to know how much Achievement Motivation and skill are involved.

Moreover, as indicated in Chapter Two of this study, and in section 7.4, empirical support for a relationship between Academic Achievement and Achievement Motivation is provided by the findings of, for example, Muhammad Ali (1988), Olshtain et al (1990), Schultz (1993), Mormori (1993), Jegede (1994) and Al-Nabhani (1996).

The findings of the present study do not, however, appear to support the views of teachers, the theory and empirical reports of previous writers. As indicated in Section

7.4, there could be several reasons for this, though at this stage there is reason to suspect that there is a deficiency in the examining and assessment system which would not only account for this departure from the prevailing trend of thought, but also has important implications for educational planning and teaching throughout Saudi Arabia.

7.5.2. Academic Achievement and Attitude toward the Subjects

Regarding the possibility of a link between students' Academic Achievement and their Attitude toward the Subject, the views of teachers differed according to subject. Islamic Religious Science teachers were not inclined to believe that there is a significant relationship, though the teachers of Arabic Language and English Language disagreed with them (Section 6.7.2).

The view expressed by Arabic Language and English Language teachers is consistent with the claims of many writers such as Mager (1968) and Rajecki (1990) who gave three reasons why educators focus on the development of positive Attitude toward subjects and school. First, attitude is often related to achievement and some believe may influence it in a positive direction. Secondly, those with a positive Attitude toward a Subject are found to be more likely to want to extend their learning in that field, both formally and informally, after the direct influence of the teacher has ended. Thirdly, Attitude is communicated to peers in a variety of ways throughout life.

Chinedum (1991) indicated that a commonly-voiced belief among educators is that Attitude toward the Subject, like Academic Achievement is an important outcome of schooling.

The belief expressed by teachers of Arabic Language and of English Language, moreover, is supported by empirical findings reported in the literature review: Muhammad Ali (1988), Freedman (1997) and Al-Nabhani (1996).

The dissenting view of Islamic Religious Science teachers on this point may perhaps be attributed to religious and cultural values, whereby all students, irrespective of Academic Achievement, might be expected to have a positive attitude to Islamic Religious Science.

For Attitude toward the Subject, as for Achievement Motivation, the findings of this study appear to support the Islamic Religious Science teachers' perceptions of no relationship, rather than the view prevalent in the literature, though this finding ,again, is subject to the problem of unreliable measures of Academic Achievement.

7.5.3. Academic Achievement and the Quality of Teacher

As reported in Section 6.7.3. overall, teachers did not think there was a significant association between the student Academic Achievement, and the Quality of Teaching, and this view was held equally by teachers of all three academic subjects.

Thus, the Saudi teachers' assumptions or perceptions on this issue ran counter to those more usually voiced in the literature. Aderinoye (1993) in his paper on the teaching of Islamic studies, and Emenalo (1994) in a keynote address on the problem of innumeracy in Nigeria, both assumed that student Academic Achievement is related to Quality of Teacher. However, they defined Teacher Quality in different ways. For Aderinoye it meant proficiency in English, mastery of the subject and self-confidence. For Emenalo it meant good lesson preparation based on approved schemes of work, appropriate teaching methods, use of teaching aids, ability to motivate students and skill in evaluation. Wilson and Cameron (1996), in a study of student teacher perceptions of effective teaching, referred to unstructured student teacher journals kept during field experience, which indicated that student teachers perceived a number of teacher qualities and practices as contributing to effective instruction.

There is also considerable empirical evidence that Quality of Teacher is related to students' Academic Achievement. Winsor (1978), for example, reported that Teacher Quality has been shown to be positively related to student performance across a broad range of studies.

Manatt and Daniels (1990) in a study of the relationship between principals' ratings of teacher performance and student achievement among fourth grade mathematics, fourth grade reading, and eighth grade mathematics classes, found 21 of 25 performance criteria to be significant at $p < 0.05$, in at least one subject and grade level. While the criteria were grouped into four areas: Productive Teaching Techniques, Organised, Structured Class Management, Positive Interpersonal Relations and Professional Responsibilities, each of the areas was found to be significantly related to student Academic Achievement in at least one subject.

Opie (1994), in a small-scale, qualitative study of teachers known for their outstanding success in teaching reading, found that they had a number of personal qualities in common: all were committed and enthusiastic, had good discipline skills, established positive relationships with pupils and had high expectations.

It is understandable, of course, that teachers would be reluctant to see student Academic Achievement as being related to teacher quality; since they had generally low perceptions of student Academic Achievement, to express such a view would be to cast doubt on their own abilities. This does not mean, however, that teachers were not concerned about the issue of teacher quality. In responses to the interview, a few did express concern about teacher quality as a contributor to poor achievement, and in the open section of the questionnaire, they raised several issues related to teacher quality - among them, the effectiveness of teacher preparation and the need for in-service training.

Thus, the apparent ambivalence in teachers' views on the relationship between Quality of Teacher and Academic Achievement may stem in part from the difference in questions in the interviews and questionnaires; in the former, they were asked what factors they thought might account for students' Academic Achievement as they perceived it; in the latter, they were asked directly whether Quality of Teacher and Student Achievement are related. Moreover, as the studies mentioned above clearly demonstrate, Teacher Quality can be perceived and defined in many different ways. In this study, no specific definition of the expression was given to respondents (in fact, the term was included in the questionnaire because it had been highlighted by teachers themselves, in the interviews). Those teachers who expanded on their view of this issue equated Teacher Quality with effectiveness, and mentioned various skills: ability to control the class, giving clear explanations, using teaching aids, and using a variety of teaching methods.

7.5.4. Academic Achievement and Quality of The Book

Teachers did not see the quality of the textbook as a contributor to Academic Achievement (Section 6.7.4). In this connection, it is of interest to note a number of factors on which the teachers themselves, and previous Saudi writers, have commented, which may cast doubt on the quality of the books used. First, as noted in Chapter Two, it was reported that in Islamic Religious Science, in particular, the curriculum has remained unchanged for over 20 years. Secondly, the curriculum is said to be overloaded. Teachers, in their additional comments and suggestions, expressed the view that too many topics are covered. Thirdly, in the case of Islamic Religious Science, both teachers and students indicated that the books currently in use do not sufficiently reflect the ordinary life experience of the students, and need to be made

more relevant, a claim which has previously been reported in the media (Okaz, 1993), as indicated in Chapter Two.

7.5.5. Teaching Aids

As shown in Chapter Six, Section 6.7.5., use of Teaching Aids was perceived by teachers generally as low, and there was no significant relationship between their perceptions in this respect and their perceptions of the level of their students' Academic Achievement. In Islamic Religious Science and Arabic Language, the majority of teachers said they did not use them. In contrast, 90% of English Language teachers claimed to use Teaching Aids. In this respect, the practice of teachers of English Language in contrast to those of Islamic Religious Science or Arabic Language, is in line with modern educational theory (Table 6.36). Previous writers have claimed:

- that the use of Teaching Aids contributes to engaging student motivation (Rowntree, 1982);
- that students remember 10% of what they read, about 20% of what they hear and about 50% of what they hear and see (Brown et al, 1982).
- that the effective use of Teaching Aids enriches learning by adding variety to it (Obanya, 1983).

However, the finding of this section might be explained in terms of certain observations reported in Chapter Three, regarding the teachers' workload, reported by Al-Sharhan (1989) and Umm Al-Qura University (1986) and also suggested by the teachers' additional comments in the open section of this study (Section 6.8).

Moreover, a number of studies report the importance of teacher training in the use of Teaching Aids, as a factor in teachers' readiness to use them in the classroom. Lack of

training in their use is widely reported as one of the principal factors in non-use (Hurst, 1983; Bettex, 1984; Schriffman, 1986; Al-Hakami, 1992).

As indicated in Section 7.2, the low level of use of Teaching Aids reported by teachers does not necessarily mean they were unwilling to use them. Some, at least, were interested in making more use of Teaching Aids, if they were available, as reflected in the interview responses (Table 6.23). Given that teachers also expressed, in the open section of the questionnaire, an interest in training issues, including a desire for more in-service training, there would seem to be scope for addressing the issue of use of Teaching Aids through this means.

7.5.6. Teaching Methods

Table 6.38 indicated that the majority of teachers in all subjects did not perceive themselves as using a variety of Teaching Methods and their perception in this respect was not significantly related to their perception of the level of their students' Academic Achievement (Table 6.37). Teachers' questionnaire responses were consistent with the findings from the interviews, in which the teachers surveyed said they relied heavily on one teaching method: the lecture in the case of Islamic Religious Science and discussion in the case of Arabic Language and English Language.

The finding relating to reliance on the lecture method is consistent with a criticism raised by Okaz Newspaper in 1993 (see Chapter Two), suggesting that there has been little or no change in the past few years.

As noted in Chapter Three, the lecture method is subject to criticism (e.g. by Beard and Hartley, 1984) as being uninteresting and not conducive to developing students' ability to think, reason and solve problems. The discussion in Chapter Two of the objectives, curriculum and examinations in the three subjects, Islamic Religious Science, Arabic

Language and English Language, gives reason to believe that the Saudi education system focuses on ability to memorise and reproduce information, rather than solve problems. However, the critics of the lecture method cast doubt on its desirability, even to serve that objective; it is suggested that students will more readily retain information which they have been actively involved in acquiring.

It may be that teachers' awareness of the limitations of the "one method" style of teaching goes some way to account for their ambivalence on the relationship between Quality of Teacher and students' Academic Achievement. The interview responses presented in Table 6.24 showed that teachers felt the methods they used were "appropriate", but few claimed they give good results. Their responses also suggested that they might be willing to try more varied methods (e.g. discussion in Islamic Religious Science, programmed learning in English Language), but they felt constrained by the amount of textbook material to be covered, and teaching load. As in the case of Teaching Aids, so here, it is possible that improved pre-service and in-service training, in which the teachers expressed interest (Table 6.44) may have an important role to play in making teachers competent and confident in the use of more varied methods.

7.5.7. Students' Participation

No clear trend was found in teachers' perceptions regarding whether or not their lessons are characterised by student participation, for any of the three academic subjects; although a majority of questionnaire respondents in each subject reported lack of participation, the distribution of answers was not statistically significant (Table 6.40).

Dorman (1995) stated that a lot of studies focused on students' Classroom Environment, suggesting that student perceptions of the Classroom Environment account for an appreciable amount of variance in learning outcomes. In other words, a

positive Classroom Environment is linked with better cognitive and affective outcomes among students.

In the literature, the issue of participation is often discussed in relation to teaching methods, and it is widely held that participative teaching methods play an important part in making the lessons more effective (see Chapter Three). For instance, Daines et al. (1992) argued that an imaginative choice of Teaching Methods and their efficient implementation and management will allow students to participate in a range of appropriate activities, listening, looking, talking, doing, and this will facilitate their learning and lead to good Academic Achievement.

It should be noted that related to the interview results (Section 6.6.4.), the majority of the teachers for all three subjects agreed that students should participate in the lessons, and gave the reason that this is because participation makes the students more interactive, though this does not necessarily mean they viewed participation as related to students' Academic Achievement.

It is interesting to compare teachers' interview and questionnaire responses, in relation to Student Participation. In the interviews, teachers of Islamic Religious Science tended to say students did not discuss their lesson in the classroom, whereas half the teachers of English said students "sometimes" took part in class discussion, and the remainder said that they "always" did so (Table 6.25). These claims are consistent with teachers' earlier claims (Table 6.24) about the Teaching Methods used; one would expect reports of student participation in English Language, where teaching was said to rely heavily on the discussion method. Similarly, Islamic Religious Science teachers' reported reliance on the lecture method would explain students' lack of discussion in these lessons.

On the other hand, in the questionnaire responses, Islamic Religious Science teachers

reported the highest level of participation, and English Language teachers the lowest. This pattern is consistent with the pattern of students' responses regarding the Classroom Environment (a large element of which given the nature of the scale used, was Participation). The apparent discrepancy between the interview and questionnaire findings can be attributed to the difference in the questions used; the interview focused specifically on class discussion, whereas the questionnaire referred more generally to Student Participation, which is a broader concept than just "discussion", and might be no more than group recitation.

Another point which may be made in relation to the teachers' perceptions of Student Participation, is that the finding that Participation is lower in English Language than in other subjects is not unexpected, in view of the factors discussed in Section 7.3, namely, that English, as a second language, is likely to be more difficult for students than Islamic Religious Science or Arabic Language, to be accorded less importance and to be seen as less relevant. In this respect, the pattern of teachers' responses on Participation is what would be expected in the light of educational and cultural considerations, which tends to support the validity of this part of the questionnaire. The findings on Participation may also be explained in terms of teacher expectation. English Language teachers, who said they used discussion as their main teaching method, probably expected a higher level of individual participation from students than did teachers of other subjects and for this reason would be more likely to be disappointed by students' behaviour.

A final note of interest in relation to teachers' perceptions of student participation in lessons, is that, whereas in Arabic Language and English Language, teachers' perceptions in this respect were not significantly related to their perception of the level of student Academic Achievement, the relationship was significant for Islamic

Religious Science (Table 6.39). In that subject, teachers who perceived their students as not participating in class, were more likely to perceive them as low achievers. This finding may be explicable in terms of the special nature of "Participation" in Islamic Religious Science. As indicated above, students in Islamic Religious Science were generally perceived not to participate in discussion, and yet in the questionnaire responses, it was Islamic Religious teachers who reported the higher level of student Participation. In view of the nature of the Islamic Religious Science curriculum discussed in Chapter Two (Section 2.10.2) it seems likely that "Participation" in this context meant reading aloud, recitation and, perhaps, providing formulaic answers to the teacher's questions, based on memorisation of the text-book. These abilities are so essential a part of the Islamic Religious Science curriculum and fulfilment of the objectives for the subject, that it is not surprising that teachers may see students who do not participate at this level, as low achievers, for it is on precisely these abilities that student achievement is largely judged.

7.6. Comparison of Teachers' and Students' Perceptions

The questionnaire findings, teacher interviews and additional comments and suggestions made by students and teachers, reveal a number of common concerns, though priorities and perceptions often differed between the two groups.

Concerns about low levels of Achievement Motivation and Attitude toward Subjects were expressed in the teacher interviews and by many of those teachers who completed the questionnaire survey. Students' mean Achievement Motivation and Attitude toward Subject scores, reported in Chapter 6, suggest a broad similarity between teachers' and students' perceptions in this respect.

The Classroom Environment scale of the AMACT questionnaire was to a large extent concerned with students' perceptions of Participation, an issue that was raised also in the teacher interviews and questionnaires. Interestingly, in interview, teachers of all subjects claimed to favour participation, though teachers of Islamic Religious Science said they relied mostly on the lecture method in teaching, and reported low levels of student participation in class discussion. English teachers, in contrast, claimed that discussion was their most-used teaching method and the few interviewed reported a high level of student participation in discussion, though this view was not supported by the larger sample surveyed by a less personal, and therefore, less threatening questionnaire. Teachers' perceptions reflected in the questionnaire responses were more consistent with those of students, who scored higher in Classroom Environment in Islamic Religious Science than in English Language. Interestingly, in the additional comments and suggestions, both students and teachers of English Language suggested

more emphasis on conversation, a suggestion that accounted for around 5% of open, free responses in each case.

The low level of use of Teaching Aids reported by teachers was consistent with student perceptions in this respect. In the open section at the end of the questionnaire, students in all three subjects suggested encouraging the teacher to use more Teaching Aids, though the frequencies and percentages of these responses were low, from 3.4% for English to 13% for Islamic Religious Science down the list of students' priorities. Some teachers were also concerned that Teaching Aids should be used more; 8% of comments in Islamic Religious Science and 10% in English Language addressed this issue.

In their additional comments and suggestions at the end of the questionnaire, all three groups of students expressed concern about teacher quality. In interview, some teachers gave teacher quality as a reason for students' low achievement - though comparatively few teachers raised this issue, compared with those who blamed students' Achievement Motivation and Attitude toward Subjects. However, a concern for teacher quality was shown in teachers' answers to the open question, where issues of teacher effectiveness and teacher training were raised.

In addition to the major concerns discussed above, there were one or two lesser points of consensus relating to individual subjects; for example, the general agreement among Islamic Religious Science teachers and students, regarding the need for greater relevance in the textbook, and the idea raised by most English teachers, and some of their students, that English should be taught in primary school.

Although the findings of the study reveal some differences of perspective and priority among teachers and students, they also reveal that teachers and students share concerns about such issues as use of Teaching Aids and teacher quality, and they indicate that concerns about Achievement Motivation and Attitudes to Subjects among Saudi secondary school students are not without foundation.

7.7. Summary

This chapter has highlighted some key issues arising from the findings reported in Chapter Six, which may have important implications for educational planning and delivery in Saudi Arabia, and for future research.

Students' marks in the third year secondary school assessment, and their scores on the variables of the AMACT questionnaire provide empirical support for the criticisms of the Saudi education system which have, in recent years, been expressed by educationalists, government and the media. Academic Achievement, Achievement Motivation and Attitude to Subjects can best be described as low to moderate. Teaching aids appear to be little used, especially in Islamic Religious Science, and little variety in teaching methods is reported.

The three subjects, Islamic Religious Science, Arabic Language and English Language are not perceived equally by students (Table 6.7- 6.12). Islamic Religious Science fares better than the other two subjects in terms of Academic Achievement and affective variables, despite its reliance on lecture methods and criticisms of the textbook; perhaps this may be due to the place of Islam at the heart of Saudi culture. In contrast, English Language scores were significantly lower than those of Islamic Religious Science and Arabic Language, for all variables except Teaching Aids. Several reasons have been put forward why English Language, as a foreign language, may be negatively perceived, despite the evidence of some teachers' attempts to use modern Teaching Aids and methods.

Regarding relationships between study variables, it was reported that the correlations obtained among Achievement Motivation, Attitude toward Subjects, Classroom Environment and Teaching Aids are in line with educational theory and with the

findings of previous empirical studies. It is all the more surprising, therefore, that contrary to the previous trend, this study found no relationship between student Academic Achievement and any other variable. It was suggested that the reliability of students' Academic Achievement scores had been compromised by inconsistency and subjectivity in the school-based portion of student assessment. This argument is supported by information given to the researcher in a follow-up interview, regarding the outcome of recent inquiries by the Ministry of Education.

Teachers' perceptions regarding the relationship between student achievement and such factors as Achievement Motivation and Attitude toward Subject tended to be in line with established theory but they disagreed with theorists in seeing no relationship between Academic Achievement and Teacher Quality and Quality of the Book.

Some interesting areas of consensus were noted between teachers' and students' perceptions, notably with regard to Achievement Motivation, Attitude toward Subject, the use of Teaching Aids, and concerns about Teacher Quality. The two groups do not perceive all aspects of the teaching/learning system similarly, nor do they necessarily have the same priorities. Nonetheless, it is clear that neither group is very satisfied under the present conditions, and both seek improvements. Interestingly, it is not simply a case of teachers blaming low achievement on students' attitude, or of students criticising teachers; both raise wider concerns which may have implications for teacher training, objective-setting, curriculum design and evaluation of learning outcomes.

CHAPTER EIGHT

SUMMARY, CONCLUSION AND RECOMMENDATIONS

8.1 Summary

8.2 Conclusions

8.3 Limitations of the Study

8.4 Recommendations

8.5 Suggestions for Further Research

Chapter Eight

Summary, Conclusion And Recommendations

8.1 Summary

Low levels of achievement among Saudi secondary school students, especially in Islamic Religious Science, Arabic Language and English Language, have become a matter of serious concern to parents, teachers and government in recent years. This study was, therefore, carried out to seek further information about third-year secondary students' and teachers' perceptions in relation to these subjects and to seek relationships between these perceptions and students' academic achievement, as measured by their overall assessment mark at the end of the school year.

Saudi educationalists have tended to assume that low achievement is attributable to low achievement motivation and poor attitudes to subjects on the part of students, and to excessively rigid, traditional teaching methods, unenlivened by the use of teaching aids. Theoretical writings and empirical studies conducted, for the most part, in the U.K. and U.S.A. suggest that academic achievement may, indeed, be significantly associated with Achievement Motivation, Attitude and perceptions of the Classroom Environment (a complex construct embracing, for example, teaching aids, teaching methods, and levels of student participation). The literature also suggests that these variables are themselves inter-correlated. So far, however, there have been few specific attempts to examine such relationships in the Saudi context, and as far as could be ascertained, none at all for Islamic Religious Science, Arabic Language and English Language at the secondary school level.

This study, therefore, set out to answer the following questions:

1. What is the level of students' scores on the study variables, Academic Achievement, Achievement Motivation, Attitude toward Subject, Classroom Environment and Teaching Aids in each of the three academic subjects, Islamic Religious Science, Arabic Language and English Language?
2. Are there significant differences among students of the three subjects, in scores on the study variables?
3. Are there any significant correlations between the study variables, Academic Achievement, Achievement Motivation, Attitude toward Subject, Classroom Environment and Teaching Aids, in each of the three subjects, Islamic Religious Science, Arabic Language and English Language?
4. What are teachers' opinions on students' Academic Achievement and participation and on the use of teaching aids and teaching methods in the teaching of Islamic Religious Science, Arabic Language and English Language and are their perceptions of Teaching Aids, Teaching Methods and Participation related to their perceptions of Academic Achievement?
5. What are teachers' beliefs as to the relationship between student Academic Achievement and such factors as Achievement Motivation, Attitude toward Subjects, the Quality of the Teacher and the Quality of the Book, and are such beliefs significantly related to teachers' perceptions of student Academic Achievement?

To seek answers to these questions, a survey was carried out among 1224 students of eight secondary schools in Taif, Saudi Arabia, using the AMACT questionnaire, designed by the researcher, drawing, in part, on instruments used in previous studies such as those of Simpson and Troost (1982), Uguroglu & Walberg. (1979), Simpson

and Oliver (1985) and Rentoul and Fraser (1979). Students' Academic Achievement scores were their total assessment marks for the year, supplied by the Ministry of Education.

To obtain teachers' views, interviews were conducted with one teacher of each subject, Islamic Religious Science, Arabic Language and English Language, in each surveyed school, i.e. 24 teachers in all. Content analysis of their responses was used to draw up a multiple-choice format questionnaire for administration to 113 further teachers who, because of practical constraints, could not be interviewed in person.

From the responses to these instruments, answers were obtained to the research questions. The main findings of the study can be summarised as follows:

1. **What is the level of students' scores on the study variables, Academic Achievement, Achievement Motivation, Attitude toward Subject, Classroom Environment and Teaching Aids in each of the three academic subjects, Islamic Religious Science, Arabic Language and English Language?**

   As indicated in Section 6.2, students' scores for the purpose of descriptive analysis were divided into three categories, designated high, moderate and low, on the basis of a cumulative percentage table of mean scores. The following results were obtained for the individual variables:

i) Academic Achievement scores for Islamic Religious Science were fairly evenly distributed among high, moderate and low categories (32.2%, 32.5% and 35.3% respectively), but those for Arabic Language and English Language were predominantly low (68.1% and 70.7% respectively). Mean scores (maximum = 3) were 1.97 for Islamic Religious Science, 1.44 for Arabic Language and 1.35 for English Language (as shown in Table 6.1).

ii) Almost half the students had moderate Achievement Motivation (48.2%, 50.1% and 42.4% for Islamic Religious Science, Arabic Language and English

Language respectively). There were also large numbers of students with low Achievement Motivation, especially in English Language (36.6%). Mean scores (maximum = 3) were 2.28 Islamic Religious Science, 2.97 for Arabic Language and 1.84 for English Language (Table 6.2).

iii) The greater proportion of Attitude toward Subject scores fell in the moderate category (46.3%, 45.6% and 46.7% for Islamic Religious Science, Arabic Language and English Language respectively). About a third of respondents in Arabic Language and English Language had low Attitude toward the Subject. Mean scores (maximum = 3) were 2.28 for Islamic Religious Science, 1.92 for Arabic Language and 1.84 for English Language (Table 6.3).

iv) Classroom Environment scores were dominated by the moderate category, with 57.0%, 49.8% and 48.9% of students in Islamic Religious Science, Arabic Language and English Language respectively having moderate scores. Mean scores (maximum = 3) were 2.09 for Islamic Religious Science, 2.02 for Arabic Language and 1.89 for English Language (Table 6.4). Compared with Achievement Motivation and Attitude toward Subject, fewer students had low Classroom Environment scores in Arabic Language and English Language, but more Islamic Religious Science students had low scores for Classroom Environment than they did for Achievement Motivation and Attitude toward Subject.

v) Use of Teaching Aids was generally perceived by students as low in all subjects, with overall 'No' responses given by 65% of students in Islamic Religious Science, 66.2% in Arabic Language and 45.2% in English Language. The mean scores for Teaching Aids as a composite variable (maximum = 2) were 1.25 for Islamic Religious Science, 1.34 for Arabic Language and 1.55 for English

Language (Table 6.6). Charts and models were the most used aids; language laboratory, tape-recorder and library the least used (Tables 6.5 and 6.11).

2. **Are there significant differences among students of the three subjects, in scores on the study variables?**

i) Achievement Motivation was significantly higher in Islamic Religious Science than in the other two subjects. There was also a significant difference between Arabic Language and English Language, in favour of the former (Table 6.8). It has been suggested that the more favourable response to Islamic Religious Science as compared to the other two subjects may be attributable, at least in part, to the central role of Islam in every aspect of Saudi thought and culture. Cultural considerations, too, might help to explain the different perceptions of Arabic Language and English Language.

ii) Students scored significantly higher on Attitude toward Subject in Islamic Religious Science than in Arabic Language and English Language (Table 6.9).

iii) In Classroom Environment, Islamic Religious Science scores were significantly higher than those for Arabic Language, which in turn were significantly higher than those for English Language (Table 6.10).

iv) Use of Teaching Aids was perceived as significantly higher in English Language than in the other two subjects (Table 6.12). This may be related to the fact that the English Language curriculum has been updated more recently than those in the other two subjects. Moreover, it is to be expected that teaching of a modern foreign language would make use of aids such as cassette-recorders, to provide students with models of authentic pronunciation.

3. **Are there any significant correlations between the study variables, Academic, Achievement Motivation, Attitude toward Subject, Classroom Environment and Teaching Aids, in each of the three subjects, Islamic Religious Science, Arabic Language and English Language?**

i) As expected, positive significant correlations were found among the variables Achievement Motivation, Attitude toward Subject, Classroom Environment and Teaching Aids, though the correlations between Teaching Aids and each of the other variables were low (Tables 6.15, 6.16 and 6.17). These findings are in line with prevailing trends in the literature.

ii) Against expectation at the start of the study and following the literature review, no significant correlations were found between Academic Achievement and any other variable, for any of the three academic subjects (Table 6.14). This finding, contrasted with the finding of the expected correlations between other variables, Points to unreliability in the Academic Achievement measure used, so that further research using a new Academic Achievement measure would be needed to be sure what relationships, if any, exist between Academic Achievement and affective variables in the Saudi educational context. Nevertheless, this was an important and valuable result, in that it provided statistical evidence of unreliability, leading to the discovery of deficiencies in student assessment on the part of Saudi secondary school teachers, complementary qualitative data recently obtained by the Ministry of Education.

4. **What are teachers' opinions on students' Academic Achievement and participation and on the use of teaching aids and teaching methods in the teaching of Islamic Religious Science, Arabic Language and English Language and is there any relationship between their perceptions of Teaching Aids, Participation and Teaching methods, and their perceptions of student Academic Achievement?**

a) Based on interview responses:

i) Teachers of all subjects perceived student Academic Achievement as low (Table 6.22). They saw this as attributable mainly to low achievement motivation and poor attitude, a view not borne out by students' scores on these variables.

ii) Teachers claimed to favour student participation in lessons, among other reasons because, they said, it makes lessons more interesting (Table 6.25). This view appears, however, to be inconsistent with the heavy reliance on the lecture method reported by Islamic Religious Science teachers, in particular (Table 6.24).

iii) Teachers agreed use of Teaching Aids is low, though less so in English Language than in the other subjects. They recognised that some aids, especially tape-recorders, could be useful, and English Language teachers expressed desire to have language laboratory facilities made available to them (Table 6.23).

iv) Regarding Teaching Methods, Islamic Religious Science teachers reported relying mainly on the lecture method, while Arabic Language and English Language teachers said they mainly used discussion. Teachers blamed their teaching load and the large volume of material to be covered from the textbook, for their failure to use more varied Teaching Methods (Table 6.24).

b) Based on Questionnaire responses

i) There were significant differences among teachers of the three subjects, in their perceptions of the use of Teaching Aids (Table 6.36). Teaching Aids, as a

composite variable, were perceived as not being used, by the majority of teachers in Islamic Religious Science and Arabic Language (58% and 63% respectively), but as used by the great majority (90%) of teachers of English Language. No significant association was found between teachers' perception of the level of their students' Academic Achievement and their perception as to whether they do or do not use Teaching Aids, for all three subjects (Table 6.35).

ii) The majority of teachers in all three subjects perceived themselves as not using varied teaching methods, though fewer teachers of English Language than of other subjects had this perception (Table 6.38). No significant relationship was found between teachers' perceptions of the level of their students' Academic Achievement, and their perceptions that they use, or do not use, a variety of teaching methods, for any of the three subjects (Table 6.37).

iii) Although more teachers reported lack of Student Participation than otherwise, the pattern of responses was not statistically different from random (Table 6.40). No significant relationship was found between teachers' perceptions of the level of their students' Academic Achievement, and their perceptions that students do or do not participate in lessons, for Arabic Language or English Language. The relationship was, however, significant for Islamic Religious Science, in which teachers who perceived students as not participating in lessons were more likely to perceive them as low achievers (Table 6.39).

5. **What are teachers' beliefs as to the relationship between student Academic Achievement and such factors as Achievement Motivation, Attitude toward Subjects, the Quality of the Teacher and the Quality of the Book, and are such beliefs significantly related to teachers' perceptions of student Academic Achievement?**

Teachers in general believed student Academic Achievement to be related to Achievement Motivation (Table 6.27) and Attitude toward Subject (Table 6.30). They did not believe that there was any association between Academic Achievement

and Quality of Teacher (Table 6.32) or Quality of the Book (Table 6.34). Significant differences between teachers of different subjects were found for Achievement Motivation and Attitude toward Subject (Islamic Religious Science teachers, unlike those of Arabic Language and English Language, did not believe Achievement Motivation and Attitude toward Subject to be associated with Academic Achievement).

Chi square tests revealed no significant association between teachers' perceptions of student Academic Achievement, designated as low or medium/high and their belief with regard to the role of any of the other variables (Tables 6.26, 6.29, 6.31 and 6.33).

These findings suggest that teachers did not clearly distinguish between students of different achievement levels and so would not - as teachers in the West would be expected to do - pay particular attention to encouraging and motivating low achievers.

8.2 Conclusions

As the previous section has shown, this study has succeeded in answering the questions posed at the outset, regarding Academic Achievement, affective variables and aspects of the Classroom Environment in a Saudi secondary school context. It has been shown that there is some empirical support for the concerns expressed by Saudi educators and government officials, regarding the current status of Islamic Religious Science, Arabic Language and English Language. Academic Achievement scores were not high (Section 6.2.1.), and a large proportion (typically a quarter to a third) of students had low scores for Achievement Motivation (Section 6.2.2.), low Attitude toward Subjects (Section 6.2.3.) and low perceptions of the Classroom Environment (Section 6.2.4.). Scores on use of Teaching Aids were also low (Section 6.2.5.). Despite reports of greater use of Teaching Aids in English Language, this subject fares worst of the three in all other measures; Islamic Religious Science is the subject most favourably perceived.

The study findings have, to the extent that they revealed correlations among Achievement Motivation, Attitude toward Subject, Classroom Environment and Teaching Aids (Sections 6.4.3. - 6.4.5.), been in line with the trend of previous research. The finding of no relationship between Academic Achievement and any other variable (Section 6.4.2.) is, however, totally unexpected and opens up several avenues for further investigation (discussed further, below).

Students' and teachers' responses to the questionnaires and interviews, and the additional comments and suggestions they made, raise a number of interesting issues. Support has been found for the criticisms of the subject curricula that have been voiced in recent years, discussed in Section 2.6. It appears from the comments made that there

is a need for review of the curriculum, with regard to the quantity of material to be covered, and the relevance of some of the content.

Regarding the Classroom Environment, it appears that there is little variety in teaching methods (Sections 6.6.3. and 6.7.6.), that teaching aids are little used (Sections 6.6.2. and 6.7.3.), and that student participation is limited (Sections 6.6.4. and 6.7.7.). This situation appeared not, necessarily, to be of teachers' own choosing. Many of them said they favoured participation (Section 6.6.4.), said they were interested to try new methods of teaching (Section 6.6.3), and said they wanted more teaching aids (Sections 6.6.2. and 6.8.). Addressing these issues will have implications, not only for the planning of curricula and design of course books, but also for the supply of resources. In recent years, the main focus has been on the quantitative expansion of education, i.e. the opening of new schools and the training and appointment of more teachers, to keep abreast of demand. As quantitative needs are met, it may be time to focus more attention and resources on qualitative improvements, including the provision of teaching aids.

The study findings also raise questions about teacher training: not only the pre-service preparation of new teachers, but also the provision of in-service training opportunities for established teachers. Teachers' comments in the open section of the questionnaire (Section 6.8) revealed concern about the quality of initial teacher training and provision of in-service courses to refresh and up-date their knowledge and develop their skills. Such courses might encourage use of more varied teaching methods and aids, and ensure that teachers have the confidence and ability to use them effectively.

Another point worthy of note is that, in attempting to account for the surprising failure to find any significant association between student achievement and other variables, the study has raised questions as to the possibility of a lack of reliability in the student

assessment process. Recent investigations by the Ministry of Education of discrepancies between marks in Semester 1 and Semester 2, discussed in some detail in Section 7.4.2., pp 262-265, tend to support this explanation. The possibility has also been raised - again, discussed in Section 7.4.2., p 258 - that aspects of the Saudi culture and education system (such as its strong examination orientation and focus on memorisation) may affect the way Saudi students perceive classroom parameters and the relationship between such perceptions and Academic Achievement, may differ from those of Western students, who have a different culture and education system.

In the light of the issues raised by this study, later sections of this chapter offer recommendations to those involved in the planning and delivery of secondary education in Saudi Arabia, and suggestions for further research.

8.3 Limitations of the Study

In carrying out any empirical study, it is necessary to set some boundaries to the study's scope. Consequently, there will inevitably be some limitations to the study which restrict the extent to which findings can be generalised. In interpreting the results of the present study, the following limitations should be borne in mind:

1. The study was, for practical reasons, confined to a single region of Saudi Arabia. Although, as explained in Chapter 5, the degree of centralisation of the education system in Saudi Arabia is such that a high level of similarity between regions might be expected, it would nevertheless be unwise to presume that no differences exist between regions, which might affect the relationships among the variables with which this study was concerned.

2. Because of the complete segregation of education and the strict cultural constraints operating in Saudi Arabia, this study was confined to male students and teachers. It may be that studies with a female sample, or a mixed sample, would have obtained different results, as male and female students and teachers may differ in their perceptions of classroom parameters.

3. The subjects of focus in this study, namely, Islamic Religious Science, Arabic Language and English Language, are all Arts subjects. It may be that student perceptions of classroom parameters, and the relationships among variables, would be different in the context of different types of academic subjects, as a result of differences in such areas as teaching methods, facilities, vocational orientation, or the social status attached to the subject. For example, Science teaching involves practical work in the laboratory; Science is also a subject that is highly regarded in Saudi society as a passport to prestigious technical and professional careers.

4. This study did not reflect fully the complex array of elements which make up the Classroom Environment. The Classroom Environment scale of the AMACT questionnaire focused on the elements of Personalisation and Participation, while two other dimensions which Walberg (1976) encompasses in his understanding of the term 'Classroom Environment' namely, Teaching Aids and Teaching Methods, were explored as separate scales. Classroom Environment, however, encompasses all the physical, emotional and aesthetic characteristics of the classroom (Pierce,1994). Measurement instruments used in other studies, therefore, while varying in the number and designation of aspects they have investigated, have included such dimensions as Organisation, Friction, Competitiveness, Affiliation, Teacher Control, Innovation and Differentiation, which were not examined in the present study. The decision was made in this study to focus specifically on those dimensions of Classroom Environment which the researcher believed, on the basis of previous observational studies, theoretical writings about teaching in Saudi Arabia and the researcher's own personal experience, to be particularly relevant in the Saudi context. This should be borne in mind in interpreting the findings on Classroom Environment and its relationships with other variables.

8.4. Recommendations

The findings of this study have implications for several aspects of the education process. In this section, recommendations are made which, if implemented, would, it is believed, enhance the effectiveness of the Saudi education system. They can be divided into those that could be implemented in the short-term, i.e. within the framework of the existing curriculum and assessment system, and those that would form part of a longer-term, more fundamental reform effort.

In the short-term:

- **The Ministry of Education should issue all schools with clear guidelines as to assessment.**

  Provision of guidance as to what should be assessed, and how, would minimise variations between individual teachers and schools. For example, they could provide sample questions, together with specimen answers and mark schemes.

- **Consideration should be given to the introduction of a system of external moderation,** such as is used in the U.K. in the marking of GCSE and 'A' level coursework, in order to ensure comparable standards between schools.

- **It is recommended that Saudi Arabia can learn from the U.K. experience and reduce the teachers' contribution in the final assessment from the current 65% to 20%.**

  Doubts have been raised by this study and the recent investigations in Saudi Educational Directorates, regarding the reliability of teachers' assessments of their pupils. The reduction of the teacher's contribution in assessment would minimise the potential harm from subjectively, bias or poor assessment skills.

- **Computerised records of all examination results should be held by the Ministry of Education.**

  This would facilitate identification of regions or schools where assessment outcomes appear not to be in line with national patterns, and targeted support provided.

- **Serious consideration should be given to resourcing the provision of teaching aids. Where possible, plans for new, purpose-built schools should include provision of language laboratory facilities for language teaching. In existing buildings, including rented buildings, maintenance and improvement programmes should be undertaken to ensure the provision of a range of teaching aids.**

  The responses to teacher interviews and teachers' additional comments suggest that one reason for low use of teaching aids is that some aids may not be available (see Table 6.23 which shows that only limited Teaching Aids were reported as being available – and not by all teachers – and Table 6.44 in which English teachers' call for provision of language laboratories and technicians is reported).

- **Efforts should be made by teachers to increase the level of Participation in the classroom.**

  Participation was found in this study to be perceived as generally low. The finding that Participation was considered higher in Islamic Religious Science than in either of the languages can probably be accounted for by the fact that much of that Participation would take the form of reading aloud and recitation of the Quran; though that is not what Classroom Environment researchers think of as Participation. The Participation items in the AMACT questionnaire, for example, related to discussion and asking questions. Islamic Religious Science teachers did not perceive their students as being involved in discussion. Whilst the important place of reading and recitation is accepted, efforts should also be made to encourage students to participate in discussion and interpretation, in order to involve them more actively in the learning process and make lessons more interesting.

In the longer term:

In examining the current curricula in Islamic Religious Science, Arabic Language and English Language, by way of background to the present study (Chapter Two), the researcher drew attention to the vague, generalised and qualitative nature of many educational objectives, and the difficulty this might pose for teachers who have to operationalise these objectives in the classroom. Subsequently, the empirical findings revealed a number of concerns related to the curriculum and teaching methods. Doubt was cast on the validity of the only measure of student Academic Achievement available at the end of Secondary education in Saudi Arabia - the measure on which students' higher education and career opportunities depend. Follow-up discussions on this matter, with officials in the Ministry of Education, revealed wide discrepancies between the Semester 1 assessments provided by teachers and the Semester 2 scores in the external examination. Moreover, analysis of teachers' questionnaire responses suggested that teachers do not clearly distinguish between students of different achievement levels, and so would be unlikely to give the necessary additional attention, support and encouragement to low achievers.

All these findings suggest that, despite the heavily centralised education system in Saudi Arabia, educational objectives, curriculum, teaching and assessment are not sufficiently closely integrated, so it is unclear what students should be expected to know or be able to do, how teachers can monitor and promote student progression, how assessment can be used for diagnostic as well as summative purposes, and how the work of individual schools or Directorates can be evaluated and reported

The concerns about the Saudi education system raised both directly and indirectly by this study, and consideration of the Western, particularly U.K. experience, have

prompted the researcher to take a long-term view of the needs of Saudi education, which gives rise to the recommendations which follow.

- **A fundamental revision of the curriculum and assessment process is needed.**

  Since Saudi Arabia already has a national curriculum, it recommended that it could learn from the example of other countries which have a national curriculum to which is attached a comprehensive assessment system. The model in England and Wales is a good example of a national assessment system which could readily be adapted to the structure of the Saudi education system, and which has potential for remedying the weaknesses in the current system of assessment. For example:

- **It is recommended that working groups be set up, of experts in each academic subject, whose task would be to clarify teaching and learning objectives for their respective subjects, and develop a set of clearly defined competencies in relation to which student attainment of these objectives can be assessed.**

  It was noted in Chapter 2 that many of the objectives laid down in the national curricula for Islamic Religious Science, Arabic Language and English Language are expressed in very broad and general terms and would be difficult to operationalise in practice. This is likely to have contributed to the inconsistencies and deficiencies in assessment discussed in Chapter 7. To aid the task of clarifying objectives, the working groups should attempt to collect or generate relevant assessment and testing items, for as TGAT (1988) states, "the interaction between novel statements of aims and the attempt to express these in explicit assessment form will be extremely valuable" (p. 22).

- **Another task for the working groups would be to analyse the subject curricula in the light of the objectives decided upon, and recommend revision if necessary,**

  This would help to ensure a clear match between objectives and curriculum components.

- **A comprehensive programme of national assessment and reporting in the core subjects should be introduced, similar to the SATs in the UK.**

  At present, the Semester 2 examination taken in the final year of secondary school (at age 18) is the only standard national examination in the Saudi education system. The introduction of a comprehensive system would, it is believed, give clearer picture of progression in student Academic Achievement, and a closer relationship between teacher assessment and national standardised assessment. Bearing in mind the structure of the Saudi education system, it is proposed that appropriate ages for such testing would be 9, 12 and 15. Age 9 is two years into the primary stage. By this time, children should be settled into school and teachers should know them well. At the same time it would allow the early diagnosis of difficulties in mastering basic skills, so additional help can be provided if necessary. Age 12 is the end of the primary stage, and age 15 the end of the intermediate stage. Standardised assessment of Academic Achievement at these ages would provide useful information for the school to which the student transfers, could be used to guide decisions on courses taken (e.g. which secondary stream the student should enter), and provide a summative record of Academic Achievement for those students who leave the school system to start work, or to take up vocational or higher education.

  The introduction of such assessments could, to begin with, be confined to two or three subjects, with others phased in over a period (say, five years) in order to allow time for the necessary preparations and avoid too great a burden being placed on school staff.

- **The computerised record system in the Ministry of Education should be used not only to store information on examination and assessment results, but also to analyse the results.**

  Using central records in this way would reduce avoiding the need for the extensive research at regional level which has recently been found necessary when a

discrepancy was discovered between first semester and second semester examination results at age 18. It should also be used to perform the adjustment of the results which will be required as part of the system of moderation. This will, however, necessitate training of Ministry personnel in the use of the system.

- **To co-ordinate, oversee and advise on the phased introduction and implementation of the new assessment system, a specialist body, similar to the former SEAC in the UK, should be set up under the Ministry of Education.**

  Such a body might be responsible for liaising with the National Curriculum Committee to ensure linkage of the assessment programme with the centrally prescribed curriculum; advise the subject working groups; and approve tasks and examinations for use in the standard national assessments.

- **As a first stage in introducing a modified assessment system, head teachers be provided with one day's in-service training to underline the purposes of assessment and the changes that are to take place.**

  An important part of any attempt to raise standards of assessment in schools, particularly where the introduction of major changes is involved, is the understanding and support of head-teachers. Headteachers have the opportunity to raise questions about the general implications for their schools and be told of the action to be taken in supporting teachers in the introduction of the new assessment procedures. This awareness programme could be implemented by the Education Directorates in each region.

- **A variety of methods should be used in the assessment of students to reflect student learning as accurately as possible, and to reflect the different objectives of teaching and learning.**

  In addition to the oral and written tests used at present, recognition should be given to the effort made by students, and their contribution to classwork should be acknowledged. Students should receive regular feedback on their progress, so they

can gain confidence from their achievements and learn what they need to do to meet learning targets.

- **Because teachers' own assessments have an important part to play in providing evidence, over an extended period, of students' progress in the curriculum, attention must be given to developing the methods and skills that teachers will need to make these assessments.**

  Some uniformity will be needed in the way that teachers produce evidence of Academic Achievement through their internal assessments. A set of defined profile components, competencies and assessment criteria should therefore be developed and disseminated to teachers through publication and in-service training, to enable teachers to produce reliable, comparable assessments which inspire confidence.

- **It is recommended that a central question bank be established to provide teachers with a source of valid, clearly-worded, well-thought-out questions on which to draw.**

  The findings of the present study have raised a question about the school-based portion of Saudi students' Academic Achievement assessment. The creation of a question bank would reduce the possibility of students' grades being influenced by differences between schools in the type or difficulty of questions set.

- **In view of the shortage of human and material resources in some areas, training of serving teachers could be undertaken on the "cascade model".**

  This would begin with the selection and training of a relatively small number of subject experts who would train designated representatives in each school. The latter, in turn, would train their colleagues in the school. These training efforts could be organised by the Education Directorate in each region.

8.5. Suggestions for Further Research

This thesis has presented ground-breaking exploration of the relationship between Academic Achievement and attitudinal or environmental variables in a Saudi context. Its findings differ in interesting ways from the findings of studies carried out in other contexts, and doubt has been cast on the validity of measures of Academic Achievement applied at the end of the Secondary stage of education. The issues raised warrant further exploration in order better to understand student Academic Achievement and possible influences on it, in the context of the Saudi culture and education system. As in the case of the Recommendations made earlier, suggestions for further research can be divided into short and long term perspectives.

In the short term

1. The present study focused on third-year secondary students. It would be interesting to carry out similar studies at different educational levels, e.g. among university students, to see whether Achievement-Attitude-Classroom Environment relationships are the same at different developmental stages or in different study environments.

2. For cultural reasons, it was only possible, in the present study, to investigate a single-sex group. Further research is needed in Saudi girls' schools. Moreover, by collaboration between teacher colleges, it might be possible to carry out a study involving both boys and girls, with a male researcher visiting boys' schools and a female researcher visiting girls' schools. Not only would this create a mixed-sex sample, more akin to those used in Western studies, but it would also make possible comparative study to see whether relationships between study variables are mediated by gender. Such a study would be particularly interesting in a context where all education is segregated, as it is possible that the Classroom Environment,

for example, may differ between boys' and girls' schools, and the identification of significant variables in the two settings would be helpful in educational planning.

3. The three subjects explored in the present study, Islamic Religious Science, Arabic Language and English Language, are all Arts subjects and two of them, Islamic Religious Science and Arabic Language are closely related, as the discussion of objectives, curriculum and teaching methods in Chapter Two revealed. It would therefore be useful in the future to carry out a study incorporating, for example, Mathematics or Science, which use different teaching methods, to see if any differences emerge in the nature of the relationship between Academic Achievement and other variables for different types of subject and where there is a strong vocational element.

In the long term

4. In view of the strong indications, discussed earlier, that the results of the present study were affected by a lack of standardisation in the school-based contribution to student assessment, it would be useful to carry out a similar study to the present one, using standardised Academic Achievement tests, to see whether the findings of the present study are supported. Such a study would help to clarify whether there is, in fact, a difference between Saudi and Western students in Academic Achievement-Attitude-Classroom Environment relationships.

5. The present study revealed between-subject differences in perceptions of the use of teaching aids, but it did not show, as might be expected, that teaching aids enhance students' perceptions of the classroom environment and other variables. To explore this issue in more detail, it would be useful to carry out experimental trials on teaching aid use with matched ability groups. Research might also explore the possibility that perceptions of teaching aids are affected by cultural norms and beliefs.

6. It was surprising to find in this study that teachers did not think there was an association between student Academic Achievement and Quality of Teacher (Section 6.7.3), though it was recognised (Section 7.5.3) that there is difficulty of defining what researchers, and teachers themselves, mean by teacher quality. Further research might explore in some detail, Saudi teachers' perceptions of teaching quality, and might investigate the relationships between specified teacher attributes and student Academic Achievement.

7. It is expected that each of the long-term recommendations made in Section 8.4 will have its own research programme. It is likely that many of these will be of a long term and developmental nature.

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LIST OF APPENDICES

APPENDIX 1	Map of Saudi Arabia
APPENDIX 2	Reliability Coefficients for 12 items in the three subjects, Islamic Religious Science, Arabic Language and English Language
APPENDIX 3	Survey about school subjects - Islamic Religious Science Arabic Language and English Language (AMACT).
APPENDIX 4	Survey about Perceptions of the Teaching Environment (The teacher questionnaire)
APPENDIX 5	Sub-Questions of the Study
APPENDIX 6	Access Letters
APPENDIX 7	Scatterplots for the Associations among the Study Variables.
APPENDIX 8	Correlation Coefficients of the variables in the three subjects, Islamic Religious Science, Arabic Language, and English Language.
APPENDIX 9	Task Group on Assessment and Testing (TGAT)

APPENDIX 1

MAP OF THE KINGDOM OF SAUDI ARABIA

Map of Borders of Saudi Arabia

APPENDIX 2

RELIABILITY COEFFICIENTS IN THE 3 SUBJECTS, ISLAMIC RELIGIOUS SCIENCE, ARABIC LANGUAGE AND ENGLISH LANGUAGE, FOR ACHIEVEMENT MOTIVATION AND FOR CLASSROOM ENVIRONMENT SUBSCALES.

ISLAMIC RELIGIOUS SCIENCE

	Scale Mean if Item Deleted	Scale Variance if Item	Corrected Item Total Correlation	Alpha if Item Deleted
MOTIV1	45.3451	37.8352	.3514	.6997
MOTIV2	44.7080	40.4229	.2222	.7139
MOTIV3	45.2566	35.3175	.4700	.6822
MOTIV4	44.8584	39.8191	.2716	.7094
MOTIV5	45.4867	36.3771	.4257	.6894
MOTIV6	45.3982	35.5096	.3770	.6961
MOTIV7	44.9381	41.6122	.0379	.7358
MOTIV9	45.2478	34.8488	.4832	.6796
MOTIV10	45.1593	35.3494	.5105	.6777
MOTIV11	45.5929	36.1007	.3732	.6963
MOTIV12	45.4159	35.7094	.3295	.7048
MOTIV14	45.1947	36.2653	.3464	.7006

Reliability Coefficients

N of cases = 113.0 N of Items = 12

Alpha = .7176

ARABIC LANGUAGE

	Scale Mean if Item Deleted	Scale Variance if Item	Corrected Item Total Correlation	Alpha if Item Deleted
MOTIV1	41.8142	71.7062	.5581	.8169
MOTIV2	41.4425	78.2668	.3910	.8294
MOTIV3	42.0796	70.8418	.5143	.8205
MOTIV4	41.6726	73.1150	.6213	.8145
MOTIV5	42.0708	70.0307	.6391	.8104
MOTIV6	42.7522	72.4559	.3959	.8321
MOTIV7	41.8761	72.5738	.5289	.8193
MOTIV9	41.9204	72.6275	.4916	.8225
MOTIV10	42.2920	72.3693	.4982	.8216
MOTIV11	43.2920	73.5300	.4207	.8281
MOTIV12	41.9823	74.4818	.4083	.8287
MOTIV14	42.3186	70.6297	.5330	.8188

Reliability Coefficients

N of cases = 113.0 N of Items = 12

Alpha = .8344

ENGLISH LANGUAGE

	Scale Mean if Item Deleted	Scale Variance if Item	Corrected Item Total Correlation	Alpha if Item Deleted
MOTIV1	46.7522	46.3131	.5046	.7673
MOTIV2	46.6903	45.7157	.5318	.7644
MOTIV3	47.2920	43.7086	.4798	.7688
MOTIV4	46.6814	45.4690	.6345	.7574
MOTIV5	47.3097	42.8943	.5779	.7569
MOTIVG	47.1681	47.7661	.2585	.7940
MOTIV7	46.6637	48.7430	.3734	.7792
MOTIV9	47.0796	42.6454	.6331	.7510
MOTIV10	46.8496	47.8611	.2966	.7877
MOTIV11	47.1504	46.9325	.3413	.7835
MOTIV12	46.6726	48.6865	.3159	.7841
MOTIV14	46.5398	49.8578	.2944	.7852

Reliability Coefficients

N of cases = 113.0 N of Items = 12

Alpha = .7887

PARTICIPATION – ISLAMIC RELIGIOUS SCIENCE

RELIABILITY ANALYSIS – SCALE (ALPHA)

Item-total statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item Total Correlation	Alpha if Item Deleted
CLASS 2	30.7333	12.1397	.1348	.2468
CLASS 3	33.0952	15.4524	-.2493	.4314
CLASS 5	30.6381	12.7716	.0957	.2679
CLASS 6	30.5238	10.7326	.4049	.1033
CLASS 8	31.0000	11.2885	.2606	.1751
CLASS 9	31.4000	14.3769	-.1678	.4316
CLASS 11	30.6857	11.2753	.2993	.1593
CLASS 12	30.4571	11.6352	.3917	.1469
CLASS 13	30.9333	12.6782	.0610	.2876

Reliability Coefficients

N of Cases = 105.0

N of Items = 9

Alpha = .2862

PERSONALISATION - ISLAMIC RELIGIOUS SCIENCE

RELIABILITY ANALYSIS – SCALE (ALPHA)

Item-total statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item Total Correlation	Alpha if Item Deleted
CLASS 1	10.9905	8.3364	.4647	.5413
CLASS 4	12.3333	6.7821	.2972	.6648
CLASS 7	11.6952	6.5793	.5336	.4549
CLASS 10	11.5238	7.3288	.4001	.5567

Reliability Coefficients

N of Cases = 105.0

N of Items = 4

Alpha = .6240

PERSONALISATION - ARABIC LANGUAGE

RELIABILITY ANALYSIS – SCALE (ALPHA)

Item-total statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item Total Correlation	Alpha if Item Deleted
CLASS 1	11.2952	9.1332	.4921	.6442
CLASS 4	12.0952	7.1255	.4880	.6492
CLASS 7	11.7619	8.1639	.5069	.6267
CLASS 10	11.8190	8.2458	.4915	.6360

Reliability Coefficients

N of Cases = 105.0

N of Items = 4

Alpha = .7022

PARTICIPATION – ARABIC LANGUAGE

RELIABILITY ANALYSIS – SCALE (ALPHA)

Item-total statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item Total Correlation	Alpha if Item Deleted
CLASS 2	30.1524	16.1304	.3281	.2964
CLASS 3	32.2667	20.6013	-.1846	.5170
CLASS 5	30.2095	18.1480	.0715	.3995
CLASS 6	30.1810	17.6881	.1485	.3688
CLASS 8	30.5429	16.2121	.2432	.3257
CLASS 9	31.0476	16.2381	.1299	.3833
CLASS 11	30.1714	18.1626	.0909	.3906
CLASS 12	30.1429	16.7775	.3224	.3097
CLASS 13	30.6381	14.3485	.4146	.2338

Reliability Coefficients

N of Cases = 105.0

N of Items = 9

Alpha = .3929

PERSONALISATION - ENGLISH LANGUAGE

RELIABILITY ANALYSIS – SCALE (ALPHA)

Item-total statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item Total Correlation	Alpha if Item Deleted
CLASS 1	11.5238	8.7326	.5710	.6253
CLASS 4	12.2476	8.2458	.4109	.7150
CLASS 7	12.0000	7.5769	.6187	.5809
CLASS 10	12.2571	8.2505	.4475	.6884

Reliability Coefficients

N of Cases = 105.0

N of Items = 4

Alpha = .7154

PARTICIPATION – ENGLISH LANGUAGE

RELIABILITY ANALYSIS – SCALE (ALPHA)

Item-total statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item Total Correlation	Alpha if Item Deleted
CLASS 2	30.2381	47.6062	.2394	.2785
CLASS 3	32.4857	55.7907	-.2312	.4057
CLASS 5	30.2857	48.4368	.1984	.2914
CLASS 6	29.5238	19.5595	.1811	.4394
CLASS 8	30.6762	44.8749	.3402	.2371
CLASS 9	30.9238	50.4364	.0163	.3455
CLASS 11	30.0667	47.6013	.3105	.2686
CLASS 12	30.0762	47.0134	.3377	.2595
CLASS 13	30.3143	47.6214	.2576	.2757

Reliability Coefficients

N of Cases = 105.0

N of Items = 9

Alpha = .3307

APPENDIX 3

SURVEY ABOUT SCHOOL SUBJECTS- ISLAMIC RELIGIOUS SCIENCE AND ARABIC LANGUAGE OR ENGLISH LANGUAGE

SURVEY ABOUT SCHOOL SUBJECTS

(PINK SHEETS)

School ..... Date .....

Student's Name .....

This survey is to find out how you feel about some school subjects. Your answers will be added to those of other students to help us plan for the future. Please give your answers to show how you feel.

The survey is NOT A TEST. There are NO RIGHT OR WRONG ANSWERS.

What you have to do:

1. Read the first statement carefully, then tick (✓) the one box that best indicated your feeling about the statement.

Tick under SA if you strongly agree with the statement
A if you just agree with the statement
D if you just disagree with the statement
SD if you strongly disagree with the statement

Here is an example:

	SD	D	A	SA
Statement: I really like Swimming	✓			

If you strongly disagree with this statement, then you should tick SD.

2. GO ON to each of the other statements in the order set.
3. Answer all statements.
4. DO NOT go back to previous answers.
5. If you make a mistake, cross out the answer and put in the new mark.
6. With reference to the last two pages where you are asked to circle which of the Teaching Aids are used in Islamic Religious Science or Arabic Language, there might be one used in both subjects. In this circumstance, you are required to tick it in both subjects.
7. The last page requests you give your comments and suggestions.
8. Remember, this is not a test. Give your honest opinion for each statement (not what you think we might like you to say).
9. Ask the teacher in charge if there is any statement you do not understand.

STATEMENT	SD	D	A	SA
I always try hard in Islamic Religious Science, no matter how difficult the work.				
When I fail in Islamic Religious Science, that makes me try that much harder.				
I don't try to do my best in Islamic Religious Science.				
I try hard to do well in Islamic Religious Science.				
When I do something in Islamic Religious Science, I usually plan carefully.				
When I start a new project in Islamic Religious Science, I often don't finish it.				
When I do well in Islamic Religious Science, it is because I work hard.				
When I have a hard problem in Islamic Religious Science, I usually keep trying to solve it.				
I don't think about the ideas which I learn in Islamic Religious Science.				
What I learn in Islamic Religious Science helps me in other studies.				
I don't find any benefit for Islamic Religious Science.				
Islamic Religious Science is one of the most interesting subjects in our curriculum.				
We learn about important things in Islamic Religious Science.				
We cover interesting topics in Islamic Religious Science.				
I don't like our Islamic Religious Science textbook.				
I have a good feeling toward Islamic Religious Science.				
I don't enjoy Islamic Religious Science classes.				
I really like Islamic Religious Science.				

STATEMENT	SD	D	A	SA
I would not enjoy being an Islamic Religious Science teacher.				
I think Islamic Religious Science teachers are neat people.				
Everyone should learn about Islamic Religious Science in school.				
My Islamic Religious Science teacher encourages me to learn more about Islam.				
I don't enjoy talking to my Islamic Religious Science teacher after class.				
My Islamic Religious Science teacher makes good plans for us.				
Sometimes my Islamic Religious Science teacher makes me feel dumb.				
Islamic Religious Science teachers can be trusted and depended upon.				
The Islamic Religious Science teacher helps each student who is having difficulties in understanding the lesson.				
Students discuss the theme of the Islamic Religious Science lesson.				
Students sit and listen to the Islamic Religious Science teachers				
Students ask the Islamic Religious Science teacher questions.				
The Islamic Religious Science teacher tries to find out what each student wants to learn about.				
Most students take part in discussion in Islamic Religious Science lessons.				
Students are encouraged to be considerate of other people's ideas and feelings in Islamic Religious Science lessons.				
Students are asked questions in Islamic Religious Science lessons.				

STATEMENT	SD	D	A	SA
There is classroom discussion in Islamic Religious Science lessons.				
Students are allowed to give their opinion during discussion in the Islamic Religious Science lesson.				
I always try hard in Arabic Language no matter how difficult the work.				
When I fail in Arabic Language, that makes me try that much harder.				
I don't try to do my best in Arabic Language.				
I try hard to do well in Arabic Language.				
When I do something in Arabic Language, I usually plan carefully.				
When I start a new project in Arabic Language, I often don't finish it.				
When I do well in Arabic Language, it is because I work hard.				
When I have a hard problem in Arabic Language, I usually keep trying to solve it.				
I don't think about the ideas which I learn in Arabic Language.				
What I learn in Arabic Language helps me iother subjects.				
I don't find any benefit for Arabic Language.				
Arabic Language is one of the most interesting subjects in our curriculum.				
We learn about important things in Arabic Language.				
we cover interesting topics in Arabic Language.				
I don't like our Arabic Language textbook.				
I have a good feeling toward Arabic Language.				
I don't enjoy Arabic Language classes.				
I really like Arabic Language.				

STATEMENT	SD	D	A	SA
I would not enjoy being an Arabic Language teacher.				
I think Arabic Language teachers are neat people.				
Everyone should learn about Arabic Language in school.				
My Arabic Language teacher encourages me to learn more about Arabic Language.				
I don't enjoy talking to my Arabic Language teacher after class.				
My Arabic Language teacher makes good plans for us.				
Sometimes my Arabic Language teacher makes me feel dumb.				
Arabic Language teachers can be trusted and depended upon.				
The Arabic Language teacher helps each student who is having difficulties in understanding the lesson.				
Students discuss the theme of the Arabic Language lesson.				
Students sit and listen to the Arabic Language teachers.				
Students ask the Arabic Language teacher questions.				
The Arabic Language teacher tries to find out what each student wants to learn about.				
Most students take part in discussion in Arabic Language lessons.				
Students are encouraged to be considerate of other people's ideas and feelings in Arabic Language lessons.				
Students are asked questions in Arabic Language lessons.				
There is classroom discussion in Arabic Language lessons.				
Students are allowed to give their opinion during discussion in the Arabic Language lesson.				

TEACHING AIDS

In this questionnaire you are asked to give the Teaching Aids used during the Islamic Religious Science (IRS), and Arabic Language (AL) lessons. There might be one used in both subjects. In this circumstance, you are required to circle it in both subjects.

Read the first statement carefully, then draw a circle around -

A if it is Always that the teaching aid is used.

S if it is Sometimes that the Teaching Aid is used.

N if it is Never that the Teaching Aid is used.

Go on to each of the other Teaching Aids in turn.

The Islamic Religious Science or Arabic Language teacher uses the following Teaching Aids in his teaching:

TEACHING AIDS	IRS	AL
CHARTS	A	A
	S	S
	N	N
MODELS	A	A
	S	S
	N	N
TAPE RECORDER	A	A
	S	S
	N	N
LIBRARIES	A	A
	S	S
	A	A
LANGUAGE LABORATORY	A	A
	S	S
	N	N

*** Please use the space provided for any comments/suggestions about IRS or AL.**

SURVEY ABOUT SCHOOL SUBJECTS

(BLUE SHEETS)

School ..... Date .....

Student's Name .....

This survey is to find out how you feel about some school subjects. Your answers will be added to those of other students to help us plan for the future. Please give your answers to show how you feel.

The survey is NOT A TEST. There are NO RIGHT OR WRONT ANSWERS.

What you have to do:

1. Read the first statement carefully, then tick (✓) the one box that best indicated your feeling about the statement.

Tick under SA if you strongly agree with the statement
A if you just agree with the statement
D if you just disagree with the statement
SD if you strongly disagree with the statement

Here is an example:

	SD	D	A	SA
Statement: I really like Swimming	✓			

If you strongly disagree with this statement, then you should tick SD.

2. GO ON to each of the other statements in the order set.
3. Answer all statements.
4. DO NOT go back to previous answers.
5. If you make a mistake, cross out the answer and put in the new mark.
6. With reference to the last two pages where you are asked to circle which of the Teaching Aids are used in Islamic Religious Science or English Language, there might be one used in both subjects. In this circumstance, you are required to tick it in both subjects.
7. The last page requests you give your comments and suggestions.
8. Remember, this is not a test. Give your honest opinion for each statement (not what you think we might like you to say).
9. Ask the teacher in charge if there is any statement you do not understand.

STATEMENT	SD	D	A	SA
I always try hard in Islamic Religious Science, no matter how difficult the work.				
When I fail in Islamic Religious Science, that makes me try that much harder.				
I don't try to do my best in Islamic Religious Science.				
I try hard to do well in Islamic Religious Science.				
When I do something in Islamic Religious Science, I usually plan carefully.				
When I start a new project in Islamic Religious Science, I often don't finish it.				
When I do well in Islamic Religious Science, it is because I work hard.				
When I have a hard problem in Islamic Religious Science, I usually keep trying to solve it.				
I don't think about the ideas which I learn in Islamic Religious Science.				
What I learn in Islamic Religious Science helps me in other studies.				
I don't find any benefit for Islamic Religious Science.				
Islamic Religious Science is one of the most interesting subjects in our curriculum.				
We learn about important things in Islamic Religious Science.				
We cover interesting topics in Islamic Religious Science.				
I don't like our Islamic Religious Science textbook.				
I have a good feeling toward Islamic Religious Science.				
I don't enjoy Islamic Religious Science classes.				
I really like Islamic Religious Science.				

STATEMENT	SD	D	A	SA
I would not enjoy being an Islamic Religious Science teacher.				
I think Islamic Religious Science teachers are neat people.				
Everyone should learn about Islamic Religious Science in school.				
My Islamic Religious Science teacher encourages me to learn more about Islam.				
I don't enjoy talking to my Islamic Religious Science teacher after class.				
My Islamic Religious Science teacher makes good plans for us.				
Sometimes my Islamic Religious Science teacher makes me feel dumb.				
Islamic Religious Science teachers can be trusted and depended upon.				
The Islamic Religious Science teacher helps each student who is having difficulties in understanding the lesson.				
Students discuss the theme of the Islamic Religious Science lesson.				
Students sit and listen to the Islamic Religious Science teacher.				
Students ask the Islamic Religious Science teacher questions.				
The Islamic Religious Science teacher tries to find out what each student wants to learn about.				
Most students take part in discussion in Islamic Religious Science lessons.				
Students are encouraged to be considerate of other people's ideas and feelings in Islamic Religious Science lessons.				
Students are asked questions in Islamic Religious Science lessons.				

STATEMENT	SD	D	A	SA
There is classroom discussion in Islamic Religious Science lessons.				
Students are allowed to give their opinion during discussion in the Islamic Religious Science lesson.				
I always try hard in English Language no matter how difficult the work.				
When I fail in English Language, that makes me try that much harder.				
I don't try to do my best in Language.				
I try hard to do well in English Language.				
When I do something in English Language, I usually plan carefully.				
When I start a new project in English Language, I often don't finish it.				
When I do well in English Language, it is because I am lucky.				
When I have a hard problem in English Language, I usually keep trying to solve it.				
I don't think about the ideas which I learn in English Language.				
What I learn in English Language helps me in other subjects.				
I don't find any benefit for English Language.				
English Language is one of the most interesting subjects in our curriculum.				
We learn about important things in English Language.				
we cover interesting topics in English Language.				
I don't like our English Language textbook.				
I have a good feeling toward English Language.				
I don't enjoy English Language classes.				
I really like English Language.				

STATEMENT	SD	D	A	SA
I would not enjoy being an English Language teacher.				
I think English Language teachers are neat people.				
Everyone should learn about English Language in school.				
My English Language teacher encourages me to learn more about English Language.				
I don't enjoy talking to my English Language teacher after class.				
My English Language teacher makes good plans for us.				
Sometimes my English Language teacher makes me feel dumb.				
English Language teachers can be trusted and depended upon.				
The English Language teacher helps each student who is having difficulties in understanding the lesson.				
Students discuss the theme of the English Language lesson.				
The English Language teacher lectures without students asking or answering questions.				
Students sit and listen to the English Language teacher.				
Students ask the English Language teacher questions.				
The English Language teacher tries to find out what each student wants to learn about.				
Most students take part in discussion in English Language lessons.				
Students are encouraged to be considerate of other people's ideas and feelings in English Language lessons.				
Students are asked questions in English Language lessons.				
There is classroom discussion in English Language lessons.				
Students are allowed to give their opinion during discussion in the English Language lesson.				

TEACHING AIDS

In this questionnaire you are asked to give the Teaching Aids used during the Islamic Religious Science (IRS), and English Language (EL) lessons. There might be one used in both subjects. In this circumstance, you are required to circle it in both subjects.

Read the first statement carefully, then draw a circle around -

A if it is Always that the teaching aid is used.
S if it is Sometimes that the Teaching Aid is used.
N if it is Never that the Teaching Aid is used.

Go on to each of the other Teaching Aids in turn.

The Islamic Religious Science or Arabic Language teacher uses the following Teaching Aids in his teaching:

TEACHING AIDS	IRS	EL
CHARTS	A	A
	S	S
	N	N
MODELS	A	A
	S	S
	N	N
TAPE RECORDER	A	A
	S	S
	N	N
LIBRARIES	A	A
	S	S
	A	A
LANGUAGE LABORATORY	A	A
	S	S
	N	N

*** Please use the space provided for any comments/suggestions about IRS or EL.**

APPENDIX 4

SURVEY ABOUT TEACHING ENVIRONMENT (THE TEACHER QUESTIONNAIRE)

SURVEY ABOUT TEACHING ENVIRONMENT

School ..... Date .....

Subject .....

This survey is to gather your ideas about students' achievement, Teaching Aids and Classroom Environment.

I therefore request you to share with me your perceptions of the above. For the purpose of this survey, there are no right or wrong answers. Your personal, honest opinion is the only required response which will have the greatest value in this survey.

As the information you give will be treated with utmost confidentiality, I implore you to complete the whole questionnaire, which I will later collect from you.

Thank you in advance for your co-operation and invaluable assistance in this research project.

STUDENTS' ACHIEVEMENT

1. **How do you rate the achievement of students in your subject?**

   (Please tick one)

   (a) Mostly low achievers.

   (b) Mostly moderate achievers

   (c) Mostly high achievers

2. **What causes this level of achievement?**

   (Please tick all that apply)

   (a) Students' motivation to achieve

   (b) Students' attitude toward the subject

   (c) The quality of the teacher

   (d) The quality of the material contained in the textbooks

   (e) Other, please specify .....

3. **How can you as a teacher try to increase the number of high achievers?**

   (Please tick all that apply)

   (a) Focusing on the weak students

   (b) Increasing the discussion in the class

   (c) Determining the weak points and solving them

   (d) Adding outside activities

   (e) Good preparation for the lesson

   (f) Using a variety of Teaching Methods

TEACHING AIDS

1. **Could you tell me about the Teaching Aids available in the school?**

   (a) Boards

   (b) Charts

   (c) Models

   (d) Library

   (e) Other, please specify.....

2. **To what extent do you use these Teaching Aids?**

(Please tick one)

(a) Always

(b) Sometimes

(c) Never

3. **Can you think of any other Teaching Aids which you have not mentioned that could be helpful to the students?**

(a) Overhead Projector

(b) Tape Recorder

(c) Language Laboratory

(d) Other, please specify .....

TEACHING METHODS

1. **What teaching method do you use most often?**

(Please tick one only)

(a) The lecture method

(b) The discussion method

(c) The inquiry method

(d) The programmed learning method

(e) Other, please specify .....

2. **What is the reason for choosing this method?**

(Please tick all that apply)

(a) It is appropriate to my subject

(b) It is simple to apply

(c) It motivates students' participation

(d) It gives good results

(e) Other, please specify .....

3. **Which of the Teaching Methods you have not mentioned would you like to use?**

   (i) The discussion method

   (ii) The inquiry method

   (iii) Programmed learning

4. **What problems stop you using this method?**

   (a) The size of the textbook

   (b) The teaching load (24 hours per week)

   (c) Students don't accept it

   (d) Other, please specify .....

STUDENT'S PARTICIPATION

1. **Do the students discuss their lessons in the classroom?**

   (Please tick one)

   (a) Always

   (b) Sometimes

   (c) Never

2. **Do most students take part in class discussion?**

   (Please tick one)

   (a) Always

   (b) Sometimes

   (c) Never

3. **Do the students ask you questions about the lesson?**

   (Please tick one)

   (a) Always

   (b) Sometimes

   (c) Never

4. **Do you think students should participate in the lesson?**

   (Please tick)

   (a) Yes

   (b) No

5. Why do you give this answer?

(a) Participating in the lesson makes students more interactive

(b) Participating in the lesson makes the lesson more interesting

(c) It gives the students chance to ask about what they didn't understand

(d) Other, please specify .....

*** Please use the space provided for any comments/suggestions concerning the problems constraints you may encounter in increasing the level of Academic Achievement of your students.**

.....

.....

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APPENDIX 5

SUB-QUESTIONS OF THE STUDY

Q1. What is the level of students' scores on the study variables, Academic Achievement, Achievement Motivation, Attitude toward Subject, Classroom Environment and teaching Aids in each of the three academic subjects, Islamic Religious Science, Arabic Language and English Language?

1. What is the level of students' Academic Achievement in Islamic Religious Science?
2. What is the level of students' Academic Achievement in Arabic Language?
3. What is the level of students' Academic Achievement in English Language?

4. What is the level of students' Achievement Motivation in Islamic Religious Science?
5. What is the level of students' Achievement Motivation in Arabic Language?
6. What is the level of students' Achievement Motivation in English Language.

7. What is the level of students' Attitude toward Subject in Islamic Religious Science?
8. What is the level of students' Attitude toward Subject in Arabic Language?
9 What is the level of students' Attitude toward Subject in English Language?

10. What is the level of students' perceptions of the Classroom Environment in Islamic Religious Science?
11 What is the level of students' perceptions of the Classroom Environment in Arabic Language?
12 What is the level of students' perceptions of the Classroom Environment in English Language?

13. What is the level of students' perception of the use of Teaching Aids in Islamic Religious Science.
14. What is the level of students' perception of the use of Teaching Aids in Arabic Language?
15. What is the level of students' perception of the use of Teaching Aids in English Language?

Q2 Are there any significant differences among the three academic subjects (Islamic Religious Science, Arabic Language and English Language) in the following variables (Achievement Motivation, Academic Achievement, Attitude toward Subject, Classroom Environment and Teaching Aids)?

1. Are there any significant differences among the three subjects (Islamic Religious Science, Arabic Language and English Language) in Academic Achievement?
2. Are there any significant differences among the three subjects (Islamic Religious Science, Arabic Language and English Language) in Achievement Motivation?
3. Are there any significant differences among the three subjects (Islamic Religious Science, Arabic Language and English Language) in Attitude toward Subject?

4. Are there any significant differences among the three subjects (Islamic Religious Science, Arabic Language and English Language) in Classroom Environment?
5. Are there any significant differences among the three subjects (Islamic Religious Science, Arabic Language and English Language) in Teaching Aids?

Q3 Are there any significant correlations among the following variables (Academic Achievement, Achievement Motivation, Academic Achievement, Attitude toward Subject, Classroom Environment, Teaching Aids) in each of the three academic subjects (Islamic Religious Science, Arabic Language and English Language)?

1. Is there any significant correlation between Academic Achievement and Achievement Motivation in Islamic Religious Science?
2. Is there any significant correlation between Achievement Motivation and Academic Achievement in Arabic Language?
3. Are there any significant correlation between Achievement Motivation and Academic Achievement in English Language?

4. Is there any significant correlation between Academic Achievement and Attitude toward Islamic Religious Science?
5. Is there any significant correlation between Academic Achievement and Attitude toward Arabic Language.
6. Is there any significant correlation between Academic Achievement and Attitude toward English Language?

7. Is there any significant correlation between Academic Achievement and Classroom Environment in Islamic Religious Science?
8. Is there any significant correlation between Academic Achievement and Classroom Environment in Arabic Language?
9. Is there any significant correlation between Academic Achievement and Classroom Environment in English Language?

10. Is there any significant correlation between Academic Achievement and Teaching Aids in Islamic Religious Science?
11. Is there any significant correlation between Academic Achievement and Teaching Aids in Arabic Language?
12. Is there any significant correlation between Academic Achievement and Teaching Aids in English Language?

13. Is there any significant correlation between Achievement Motivation and Attitude toward Islamic Religious Science?
14. Is there any significant correlation between Achievement Motivation and Attitude toward Arabic Language?
15. Is there any significant correlation between Achievement Motivation and Attitude toward English Language?

16. Is there any significant correlation between Achievement Motivation and Classroom Environment in Islamic Religious Science?
17. Is there any significant correlation between Achievement Motivation and Classroom Environment in Arabic Language?
18. Is there any significant correlation between Achievement Motivation and Classroom Environment in English Language?

19. Is there any significant correlation between Achievement Motivation and Teaching Aids in Islamic Religious Science?
20. Is there any significant correlation between Achievement Motivation and Teaching Aids in Arabic Language?
21. Is there any significant correlation between Achievement Motivation and Teaching Aids in English Language?

22. Is there any significant correlation between Attitude toward Islamic Religious Science and Classroom Environment?
23. Is there any significant correlation between Attitude toward Arabic Language and Classroom Environment?
24. Is there any significant correlation between Attitude toward English Language and Classroom Environment?

25. Is there any significant correlation between Attitude toward Islamic Religious Science and Teaching Aids?
26. Is there any significant correlation between Attitude toward Arabic Language and Teaching Aids.
27. Is there any significant correlation between Attitude toward English Language and Teaching Aids?

28. Is there any significant correlation between Classroom Environment and Teaching Aids in Islamic Religious Science?
29. Is there any significant correlation between Classroom Environment and Teaching Aids in Arabic Language?
30. Is there any significant correlation between Classroom Environment and Teaching Aids in English Language?

Q4 What are teachers' opinions on students' Academic Achievement and Participation and on the use of Teaching Aids and Teaching Methods in the teaching of IRS, AL and EL?

1. What are Islamic Religious Science teachers' perceptions of their students' Academic Achievement?
2. What are Arabic Language teachers' perceptions of their students' Academic Achievement?
3. What are English Language teachers' perceptions of their students' Academic Achievement?

4. What are Islamic Religious Science teachers' opinions on their students' Participation?
5. What are Arabic Language teachers' opinions on their students' Participation?
6. What are English Language teachers' opinions on their students' Participation?

7. What are Islamic Religious Science teachers' opinions on their use of Teaching Aids?
8. What are Arabic Language teachers' opinions on their use of Teaching Aids?
9. What are English Language teachers' opinions on their use of Teaching Aids?

10. What are Islamic Religious Science teachers' opinions on their use of Teaching Methods?
11. What are Arabic Language teachers' opinions on their use of Teaching Methods?
12. What are English Language teachers' opinions on their use of Teaching Methods?

13. Are teachers' perceptions of their use of Teaching Aids related to their perceptions of students' Academic Achievement in Islamic Religious Science?
14. Are teachers' perceptions of their use of Teaching Aids related to their perceptions of students' Academic Achievement in Arabic Language?
15. Are teachers' perceptions of their use of Teaching Aids related to their perceptions of students' Academic Achievement in English Language?

16. Are teachers' perceptions of their use of Teaching Methods related to their perceptions of students' Academic Achievement in Islamic Religious Science?
17. Are teachers' perceptions of their use of Teaching Methods related to their perceptions of students' Academic Achievement in Arabic Language?
18. Are teachers' perceptions of their use of Teaching Methods related to their perceptions of students' Academic Achievement in Arabic Language?

19. Are teachers' perceptions of students Participation related to their perceptions of students' Academic Achievement in Islamic Religious Science?
20. Are teachers' perceptions of students Participation related to their perceptions of students' Academic Achievement in Arabic Language?
21. Are teachers' perceptions of students Participation related to their perceptions of students' Academic Achievement in Arabic Language?

Q5. What are teachers' beliefs as to the relationship between student Academic Achievement and such factors as Achievement Motivation, Attitude toward Subject, the Quality of the Teacher, and the Quality of the Book, and are such beliefs significantly related to teachers' perceptions of student Academic Achievement?

1. Do teachers believe student Academic Achievement is related to Achievement Motivation in Islamic Religious Science?
2. Do teachers believe student Academic Achievement is related to Achievement Motivation in Arabic Language?

3. Do teachers believe student Academic Achievement is related to Achievement Motivation in English Language?

4. Do teachers believe student Academic Achievement is related to Attitude toward Subject in Islamic Religious Science?
5. Do teachers believe student Academic Achievement is related to Attitude toward Subject in Arabic Language?
6. Do teachers believe student Academic Achievement is related to Attitude toward Subject in English Language

7. Do teachers believe student Academic Achievement is related to Quality of Teacher in Islamic Religious Science?
8. Do teachers believe student Academic Achievement is related to Quality of Teacher in Arabic Language?
9. Do teachers believe student Academic Achievement is related to Quality of Teacher in English Language?

10. Do teachers believe student Academic Achievement is related to Quality of the Book in Islamic Religious Science?
11. Do teachers believe student Academic Achievement is related to Quality of the Book in Arabic Language?
12 Do teachers believe student Academic Achievement is related to Quality of the Book in English Language?

13. Are teachers' beliefs in a relationship between Academic Achievement and Achievement Motivation related to their perceptions of student Academic Achievement in Islamic Religious Science?
14. Are teachers' beliefs in a relationship between Academic Achievement and Achievement Motivation related to their perceptions of student Academic Achievement in Arabic Language?
15. Are teachers' beliefs in a relationship between Academic Achievement and Achievement Motivation related to their perceptions of student Academic Achievement in English Language?

□□□Are teachers' beliefs in a relationship between Academic Achievement and Attitude toward Subject related to their perceptions of student Academic Achievement in Islamic Religious Science?

17. Are teachers' beliefs in a relationship between Academic Achievement and Attitude toward Subject related to their perceptions of student Academic Achievement in Arabic Language.
18. Are teachers' beliefs in a relationship between Academic Achievement and Attitude toward Subject related to their perceptions of student Academic Achievement in English Language.

19. Are teachers' beliefs in a relationship between Academic Achievement and Quality of Teacher related to their perceptions of student Academic Achievement in Islamic Religious Science?
20. Are teachers' beliefs in a relationship between Academic Achievement and Quality of Teacher related to their perceptions of student Academic Achievement in Arabic Language?
21. Are teachers' beliefs in a relationship between Academic Achievement and Quality of Teacher related to their perceptions of student Academic Achievement in English Language?

22. Are teachers' beliefs in a relationship between Academic Achievement and Quality of the Book related to their perceptions of student Academic Achievement in Islamic Religious Science?
23. Are teachers' beliefs in a relationship between Academic Achievement and Quality of the Book related to their perceptions of student Academic Achievement in Arabic Language?
24. Are teachers' beliefs in a relationship between Academic Achievement and Quality of the Book related to their perceptions of student Academic Achievement in English Language?

APPENDIX 6

ACCESS LETTERS

LIST OF ACCESS LETTERS USED IN THE STUDY

1. Letter from Saudi Arabian Cultural Bureau to the University of Umm Al-Qura.

2. Letter from the University of Umm Al-Qura to Taif Education Directorate about the number of schools in Taif city.

3. Letter from Taif Education directorate to the University of Umm Al-Qura about the number of secondary schools in Taif city.

4. Letter from the University of Umm Al-Qura to Taif Education Directorate to give the researcher permission to apply the instrument.

□□ Letter from the Head of Taif Education Directorate to the Head of the Schools to allow the researcher to distribute the Questionnaire and to make the interview.

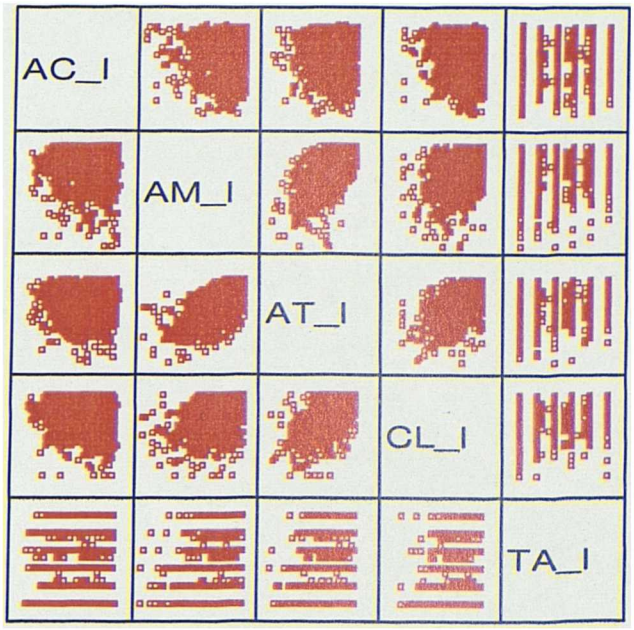
(All letter were in Arabic)

APPENDIX 7

SCATTERPLOTS OF THE ASSOCIATIONS AMONG THE STUDY VARIABLES

Appendix 7

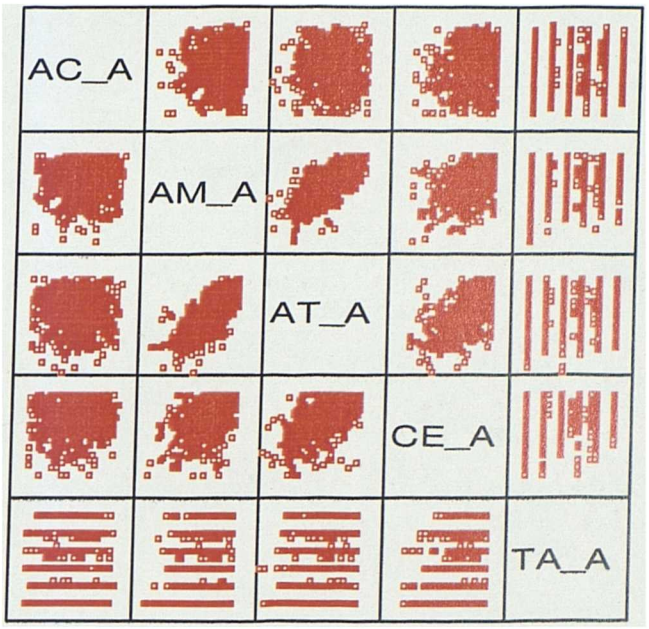
The Scatterplots for the associations between the study variables (Academic Achievement, Achievement Motivation, Attitude Toward, Classroom Environment and Teaching Aids) for Islamic Religious Science.



Scatterplots of associations between study variables for IRS (AC = Achievement, AM = Achievement Motivation, AT = Attitude toward Subject, CE = Classroom Environment, TA= Teaching Aids, I = Islamic Religious Science).

Appendix 7

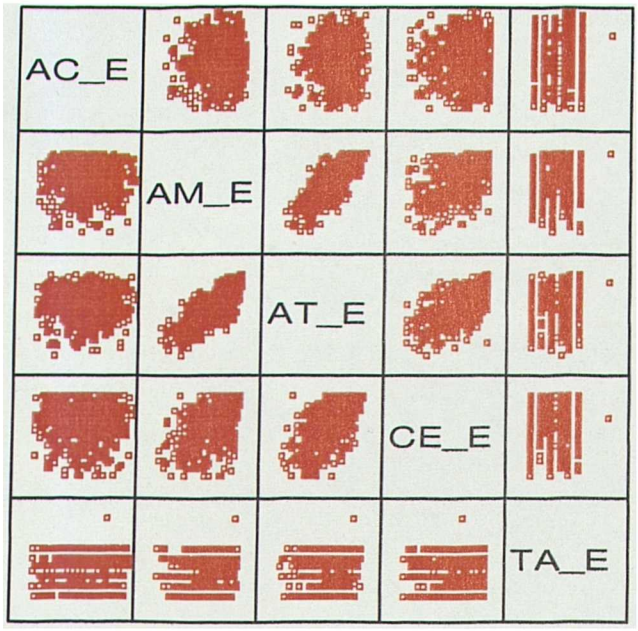
The Scatterplots for the associations between the study variables (Academic Achievement, Achievement Motivation, Attitude Toward, Classroom Environment and Teaching Aids) for Arabic Language.



Scatterplots of associations between study variables for AC (AC = Achievement, AM = Achievement Motivation, AT = Attitude toward Subject, CE =Classroom Environment, TA = Teaching Aids, A = Arabic Language.

Appendix 7

The Scatterplots for the associations between the study variables (Academic Achievement, Achievement Motivation, Attitude Toward, Classroom Environment and Teaching Aids) for English Language.



Scatterplots of associations between study variables for EL (AC = Achievement, AM = Achievement Motivation, AT = Attitude toward Subject, CE = Classroom Environment, TA = Teaching Aids, E = English Language).

APPENDIX 8

CORRELATION COEFFICIENTS OF THE VARIABLES IN THE THREE SUBJECTS ISLAMIC RELIGIOUS SCIENCE, ARABIC LANGUAGE, AND ENGLISH LANGUAGE

Correlation Coefficients between Academic Achievement and

Individual items of Achievement Motivation

AM	ACADEMIC ACHIEVEMENT		
	IRS	AL	EL
Q1	r = .0246	r = .0506	r = .0334
	p = .392	p = .215	p = .408
Q2	r = .0097	r = .0388	r = .0966
	p = .736	p = .343	p = .017
Q3	r = -.0238	r = -.0421	r = .0611
	p = .410	p = .301	p = .133
Q4	r = .0410	r = .0180	r = .0860
	p = .155	p = .662	p = .034
Q5	r= -.0347	r = -.0092	r = .0258
	p = .230	p = .823	p = .528
Q6	r = -.0063	r = -.0034	r = -.0069
	p = .825	p = .412	p = .867
Q7	r = -.0171	r = -.0526	r = .0371
	p = .552	p = .197	p = .360
Q8	r = -.0011	r = -.0060	r = .0373
	p = .969	p = .884	p = .357
Q9	r = .0025	r = -.0126	r = .0756
	p = .932	p = .758	p = .061
Q10	r = -.0180	r = .0066	r = -.0189
	p = .532	p = .872	p = .641
Q11	r = .0009	r = .0293	r = .1134
	p = .976	p = .471	p = .005
Q12	r = -.0020	r = .0223	r = .0651
	p = .945	p = .585	r = .108

Correlation Coefficients between Academic Achievement and Individual items of Attitude toward Subject

AT	ACADEMIC ACHIEVEMENT		
	IRS	AL	EL
Q1	r = -.0749	r = -.0095	r = .0225
	p = .009	p = .596	p = .582
Q2	r = -.1013	r = -.0554	r = -.0086
	p = .090	p = .174	p = .832
Q3	r = .0230	r = .0205	r = .0104
	p = .425	p = .617	p = .799
Q4	r = -.0147	r = -.0137	r = .0991
	p = .607	p = .738	p = .015
Q5	r = .0324	r = -.0207	r = .0230
	p = .259	p = .612	p = .571
Q6	r = .0127	r = .0281	r = .0734
	p = .658	p = .493	p = .072
Q7	r = -.0655	r = -.0713	r = .0571
	p = .085	p = .083	p = .161
Q8	r = .0239	r = .1256	r = .0512
	p = .406	p = .062	p = .209
Q9	r = .0646	r = -.0369	r = .0610
	p = .085	p = .368	p = .135
Q10	r = -.0502	r = .0264	r = .0166
	p = .081	p = .518	p = .682
Q11	r = -.0175	r = .0744	r = -.0425
	p = .543	p = .068	p = .294
Q12	r = -.0976	r = .0262	r = -.0233
	p = .061	p = .523	p = .566
Q13	r = .0417	r = .0807	r = .0344
	p = .147	p = .048	p = .395
Q14	r = -.0163	r = .0395	r = -.0054
	p = .573	p = .342	p = .895

Correlation Coefficients between Academic Achievement and Individual items of Achievement Motivation

CE	ACADEMIC ACHIEVEMENT		
	IRS	AL	EL
Q1	r = -.0201	r = .0671	r = -.0024
	p = .484	p = .101	p = .954
Q2	r = - .0505	r = .0074	r = .0059
	p = .079	p = .858	p = .885
Q3	r = .0087	r = -.0219	r = -.0570
	p = .762	p = .593	p = .163
Q4	r = -.0285	r = .0977	r = -.0183
	p = .322	p = .107	p = .654
Q5	r = -.0445	r = .0833	r = -.0237
	p = .123	p = .043	p = .564
Q6	r = -.0649	r = .0462	r = .0264
	p = .058	p = .266	p = .519
Q7	r = -.0317	r = .0781	r = -.0778
	p = .272	p = .057	p = .056
Q8	r = -.0547	r = .0426	r = .0060
	p = .057	p = .299	p = .882
Q9	r = -.0254	r = .0464	r = .0151
	p = .383	p = .257	p = .711
Q10	r = -.0200	r = .0716	r = .0330
	p = .490	p = .080	p = .417

Correlation Coefficients between Academic Achievement and Individual items of Teaching Aids

TA	ACADEMIC ACHIEVEMENT		
	IRS	AL	EL
Q1	r = -.0263	r = -.0048	r = .0092
	p = .364	p = .909	p = .824
Q2	r = -.0272	r = -.0256	r = .0774
	p = .349	p = .534	p = .060
Q3	r = -.0310	r = .0157	r = .0342
	p = .283	p = .703	p = .403
Q4	r = -.0458	r = -.0611	r = -.0344
	p = .112	p = .136	p = .398
Q5	r = -.0330	r = -.0122	r = -.0050
	p = .254	p = .766	p = .903

APPENDIX 9

TASK GROUP ON ASSESSMENT AND TESTING (TGAT)

TASK GROUP ON ASSESSMENT AND TESTING (TGAT)

Task Group on Assessment and Testing (TGAT), Chaired by Professor P. J. Black, Professor of Science Education at the University of London and Head of the Centre for Educational Studies at King's College, London, was set up in 1987 to advise the Secretary of State for Education on the practical considerations which should govern all assessments and assessment arrangements including national testing of attainment at specified key stages, within the proposed National Curriculum for England and Wales.

The Group started from the assumptions that to function effectively, schools need clear aims and objectives; ways of gauging the achievement of these; and comprehensible language for communicating achievement to pupils, parents, teachers and the wider community, as a basis for informed decision-making about future action. To this end, TGAT sought to propose a coherent system of assessment which would satisfy four general criteria. The system was to be:

- criterion referenced
- formative
- moderated
- related to progression (TGAT, 1987, Paragraph 5)

Moreover, according to the Group's terms of reference and the guidelines supplied by the Secretary of State, the system was to provide a means for summative recording of the achievement of a pupil in systematic way, and a means by which "some aspects of the work of a school, LEA or other discrete part of the educational service can be assessed and/or reported upon" (Paragraph 23).

"Progress", within the TGAT framework, was assumed to be defined in terms of the National Curriculum and the stages of achievement as derived from the curriculum. A consultative document on the National Curriculum (DES, 1987) had been published, which proposed that "the main purpose of assessment will be to show what a pupil has learned and mastered" (paragraph 28) and that "attainment targets will be set" for the core subjects. By Attainment Targets (ATs) was meant objectives for each subject, setting out the knowledge, skills and understanding that pupils of different abilities and naturities were expected to develop within that subject area (NCC, 1989). The ATs would be operationalised through Programmes of Study (Pos) - the matters, skills and processes which must be taught to pupils at each stage in order for them to meet the objectives set out in the ATs (NCC, 1989). Ad hoc working groups for each academic subject were constituted by the Secretary of State, to assist in drawing up appropriate ATs and Pos for each stage. According to TGAT's proposals, therefore assessment was to be in the form of a "profile" made up of a number of components for each subject, reflecting "the variety of knowledge, skills and understanding to which the subject gives rise" (Paragraph 35). The definition of the profile components was made the responsibility of the subject working groups.

TGAT's report recognised that there are many sources of information for assessment, which differ in levels of formality and standardisation and may be useful for different purposes (Paragraph 43). At the same time, it emphasised the importance of standardisation as it "allows the assessment component to be used widely by many different teachers who, if they are appropriately trained in its use, can thereby produce results which are on a common scale" (Paragraph 44). Accordingly, the national system proposed by TGAT and subsequently implemented uses, in combination, teachers' own assessment results, together with the results they obtain with standard assessment tasks.

Importance is attached to the need for teachers' assessments to be moderated in such a way as to convey and to inform national standards. TGAT considered three commonly used methods of moderation:

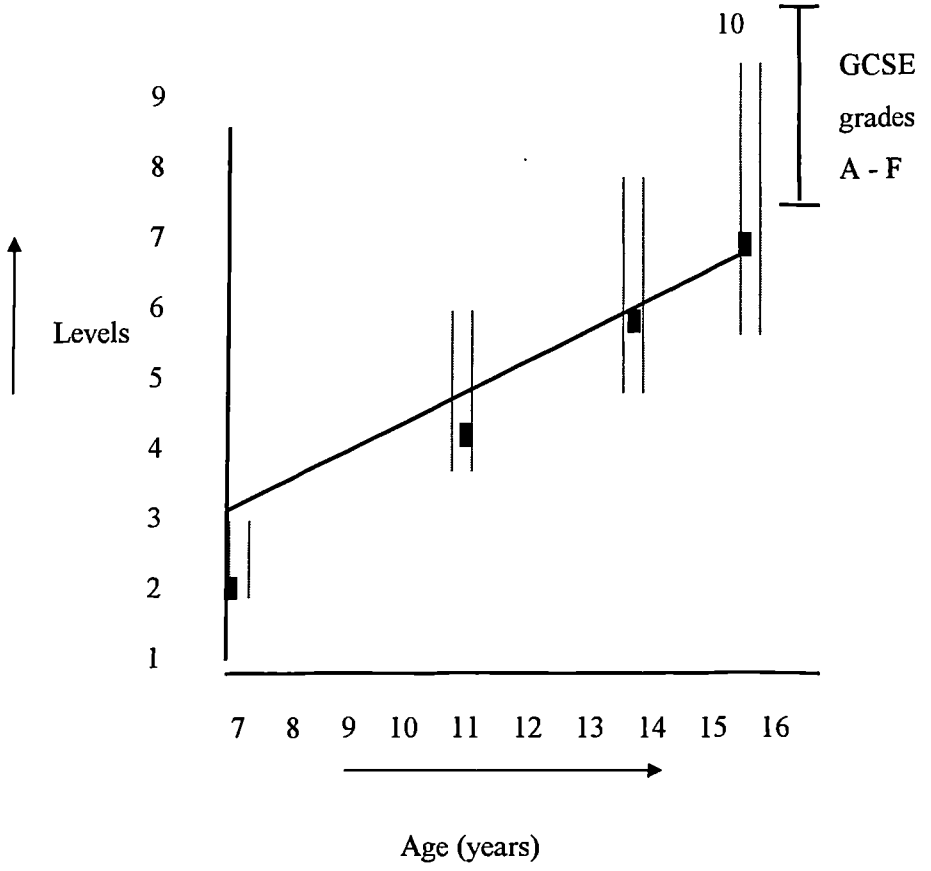
- scaling on a reference test
- inspection by visiting moderators
- group moderation, bringing teachers together to discuss their assessments

After discussing the advantages and disadvantages of each method, (Paragraphs 69-72) it recommended that group moderation be an integral part of the national assessment system.

Under the TGAT model, national reporting of student attainment takes place at ages 7, 11, 14 and 16, i.e. at the end of the "key stages" outlined in the National Curriculum Consultative document (DES, 1987). These ages have been chosen as coming at the end of, or at least two years into, a phase of schooling, by which time children should have settled in that phase and teachers should know them well. Where there is transfer, the process of reporting should enable useful information to be passed to the next school. Reporting at age 14 is considered desirable because it can inform decisions about which courses children should follow for GCSE; and 16 allows a summative assessment to be made for those children moving out of the school system, whether to work or to further education and training (Paragraph 92).

The scaling system introduced on the basis of the TGAT report is directly related to the development of pupils' competencies as described by the attainment targets of the national curriculum, i.e. the scales indicate where a pupil has reached in a profile

component. The word "level" is used to define the points on the scale representing the sequence of progression. It was suggested that there should be 10 such levels. Subject working groups were asked to write Statements of Attainment (SoAs) for each level, for each AT (see Fig. A.7.1.).



The bold line give the expected results for pupils at the ages specified. The dotted lines represent a rough speculation about the limits within which about 80% of the pupils may be found to lie.

This programme of national reporting is set in the context of the frequent assessment of pupils' work that teachers make. In this respect, one of TGAT's proposals was the "support items, procedures and training be provided to help teachers relate their own assessments to the targets and assessment criteria of the national curriculum" (Paragraph 116).

The new system was phased in over a period of several years, to allow for the promulgation of subject attainment targets, preparation of assessment materials, "trial runs" of the Standard Attainment Tasks, and the training of teachers. The subject working groups reported on a rolling basis, beginning with the core subjects - English, Mathematics and Science - followed later by History and Geography and then by the

remaining foundation subjects (technology, music, art, physical education and modern foreign languages).

Such an assessment programme obviously requires an extensive system of support. At the heart of the system were the School Examinations and Assessment Council and the National Curriculum Council, which were to co-ordinate the development of the National Curriculum and the programme of assessment and advise the subject working groups. The construction of the national tests was by test development agencies which had two main functions: 1) the construction and trial of the national tests and assessment tasks to be used by all; and 2) the development of a range of supplementary tests and assessment procedures to support the educational process generally and to be used at the discretion of the school (see TGAT report, Paragraphs 200-202).

TGAT's report highlighted the need for government and LEAs to ensure that appropriate in-service opportunities were in place, to ensure that all teachers understood the new assessment arrangements and that those teachers specifically involved in assessment at particular ages and/or in particular subject areas would be equipped with the necessary range of skills and techniques (Paragraph 207). In a supplementary report (TGAT 1988) entitled "A System of Support", TGAT elaborated on this need, and how it might be met. It proposed an immediate awareness programme for headteachers, followed by action programmes of training for primary and secondary teachers to prepare them for continuous assessment, administering standard tasks, and moderation, using a "cascade" process. The "cascade model" involves three phases:

- phase 1 : selecting and training the trainers (subject experts);
- phase 2 : trainers training nominated subject teachers (e.g. heads of department);
- phase 3 : teachers training colleagues in their schools.

The report also recognised that the introduction of the new assessment system would bring a corresponding need for the adaptation of initial teacher training, so that teachers newly entering the profession should be equipped to cope with the new curriculum and assessment requirements. No specific recommendations were made for such adaptation, however. It was left to the DES and national training providers to oversee a national programme of adaptation.

The original TGAT proposals were an important starting-point in an approach which has subsequently evolved significantly. TGAT met with a number of criticisms from educationists, with regard to both its philosophy and its practicability. Particular areas of concern included:

- teacher workload; Hunter and Brighouse (1989) for example, noted that by the time the first four of the 10 foundation subjects were settled, primary school teachers had 38 ATs to deal with which, taking into account the spread of attainment within any particular age group would mean that for a class of nine-year olds, say, the teacher would have to conduct assessment in relation to 114 attainment levels. Haydn (1994) referred to the "extremely time-consuming and administratively cumbersome manner in which [TGAT] was to be applied."

- cost; significant costs were implied, first, by the INSET requirements and second, by the need to provide cover for teachers taken out of the classroom to take part in moderation. With regard to INSET, TGAT had claimed, on the basis of a case study of one large LEA, that the cost could be accommodated by redeploying existing resources. However, as Pearce (1988) argued, TGAT was not justified in its assumptions that LEAs are all broadly alike in funding matters, especially as some have delegated extensive powers over funds to schools.

- lack of rational basis for the 10 level model; Haydn (1994) comments on the "very rough and ready nature of the 10-point scale" and argued that it "sat more easily on some subjects than others", while Hunter and Brighouse (1989) claim that the descriptors of progression between one level and the next owe more to a thesaurus than to logical thought.

- complexity of interpreting results; as Murphy (1988) commented,

> "the educational need is for accurate and insightful indications of what pupils' learning difficulties and successes are for formative purposes rather than many interpretable responses which combine to form a score that one can have confidence in but no understanding of." (p. 157)

- whether "paper and pencil" tests will actually provide sufficient of the desired assessment information. Murphy (1988) discussed at length, in this respect, the conflict between the formative and summative purposes of the assessment and the difficulty of measuring "understanding".

Because it was found to be over-complex and time-consuming in practice, the TGAT model has been revised over the years, to streamline it and reduce the recording and administrative burden on teachers. This has, in practice, meant a reduction of teacher involvement which has taken practice in England and Wales some way from the TGAT group's original proposals.

Despite its shortcomings, the TGAT model served an important political end in that it made a start with the issue of getting teachers to accept national testing. As Hunter and Brighouse (1989) note, it helped to introduce some rigour into the thinking of the curricular groups and to raise the level of debate on assessment

and recording. It established a common framework for use across all subjects, for focusing on the importance of objectives for assessment, which provided a focus for teaching planning, and for generating data for national comparability and accountability.