

RESOURCE CENTRES IN SECONDARY EDUCATION  
WITH PARTICULAR REFERENCE TO  
TEACHER AND PUPIL ATTITUDES IN SELECTED  
SECONDARY SCHOOLS IN NATAL

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ABSTRACT

Resource centres have been in existence for some 15 years in the most educationally advanced provinces in South Africa and for some six years where most recently established. Little has been written about them and consequently the role they play in secondary schools is not well-known.

The present study set out to determine the attitudes of pupils and teachers to the resource centre, and the patterns of use. It was hypothesized that the resource centre would be an integral part of the implementation of the school curriculum; that it would be an indispensable element of individualised learning and that resource-based teaching would be in evidence rather than resource-based learning.

The thesis consists of two principal components (1) the literature survey Section B, Chapters 2-4 and (2) the empirical study Section C, Chapters 5-7. The literature survey itself focuses on three aspects (a) educational theory and practice as a background to the emergence of resource centres, (b) a brief overview of the historical development of resource centres in the United States, the United Kingdom and South Africa, (c) the criteria for the provision of resource centre services, based on the standards formulated by the American Library Association and the Library Association in the United Kingdom.

The data for the empirical study was obtained by means of three questionnaires addressed to pupils, teachers and teacher-librarians. The different target populations necessitated the construction of differing questionnaires but an identical question format was used where appropriate.

The sample population was closely defined from two contrasting schools, one a rural, boys boarding school and the other a girls, urban day school. There were 50 girls in the sample and 74 boys providing a total of 124 respondents from two specified standards, 7 and 9. The researcher visited the selected schools to obtain first-hand knowledge of the two resource centres and administered the questionnaire to the sample identified.

To determine the attitudes of the respondents predominantly positive and predominantly negative frames of reference were formulated from the questionnaire and from these it was revealed that 83% of the sample had a mainly positive attitude to the resource centre, 12% a mainly negative attitude, with the remaining 5% undetermined.

The analysis of the data indicated that with reference to the empirical sample the resource centre was not fully integrated with the curriculum; that little individualised instruction was in progress and that resource-based teaching was more in evidence than resource-based learning.

CONTENTS

	<u>Page</u>
ACKNOWLEDGEMENTS	i
ABSTRACT	ii
<u>SECTION A : INTRODUCTION</u>	1
<u>CHAPTER 1 THE RESEARCH PURPOSE, INTENDED METHODOLOGY</u> <u>AND DEFINITION OF TERMS</u>	1
1.1 INTRODUCTION	1
1.2 STATEMENT OF THE PROBLEM	2
1.3 HYPOTHESES	5
1.4 PROPOSED RESEARCH METHODOLOGY	7
1.4.1 Literature Survey	7
1.4.2 Empirical Study	8
1.5 TERMINOLOGY	9
1.5.1 Resource Centre	9
1.5.2 Teacher-Librarian	12
1.5.3 Resource Centre Director	13
<u>SECTION B : LITERATURE SURVEY</u>	15
<u>CHAPTER 2 AN HISTORICAL OVERVIEW OF EDUCATIONAL THEORY</u> <u>AND PRACTICE AND THEIR IMPLICATIONS FOR</u> <u>SCHOOL RESOURCE CENTRES</u>	15
2.1 EDUCATIONAL PHILOSOPHERS	15
2.1.1 Plato and Aristotle	15
2.1.2 Desiderius Erasmus	18

2.1.3	Martin Luther	19
2.1.4	Ignatius Loyola	20
2.1.5	The Liberation of Science	21
2.1.6	John Comenius	22
2.1.7	John Locke	23
2.1.8	Jean Jacques Rousseau	24
2.1.9	Johann Pestalozzi	26
2.1.10	Herbert Spencer	26
2.1.11	John Dewey	28
2.1.12	Maria Montessori	29
2.1.13	Jean Piaget	29
2.1.14	Goals of Education	31
2.1.15	Implications for the Resource Centre	34
2.2	SOCIETY, EDUCATION AND CHANGE	35
2.2.1	Society and change	35
2.2.1.1	Technology	35
2.2.1.2	Employment	36
2.2.1.3	Knowledge Explosion	37
2.3	CHANGING PATTERNS OF EDUCATION	39
2.3.1	Changing Patterns of Schooling	42
2.3.1.1	Intelligence, Intelligence Tests & I.Q.	43
2.3.1.1.1	Intelligence	43
2.3.1.1.2	Intelligence Tests	44
2.3.1.1.3	I.Q.	46
2.3.1.2	Streaming	46
2.3.1.3	Heredity and Environment	48
2.3.1.4	Comprehensive Schools	51

2.3.1.5	Alternative Schools	52
2.3.2	Change in the Classroom	56
2.3.2.1	The Curriculum	56
2.3.2.2	Teaching Methods	59
2.3.2.2.1	Programmed Learning	59
2.3.2.2.1.1	Instructional Objectives	61
2.3.2.2.2	Team Teaching	62
2.3.3	The Learner	62
2.3.3.1	Individual Differences	63
2.3.3.1.1	Physical and Mental Traits	63
2.3.3.1.2	Environmental Influences	64
2.3.3.1.3	Other Factors	65
2.3.3.2	Learning Styles	65
2.3.3.2.1	Dependent Learning	66
2.3.3.2.2	Independent Learning	66
2.3.3.3	Motivation	68
2.3.4	Implications for the Teacher	69
2.4	THE RESOURCE CENTRE AND CHANGE	71
<u>CHAPTER 3</u>	<u>THE HISTORICAL DEVELOPMENT OF RESOURCE</u>	
	<u>CENTRES IN THE UNITED STATES, THE</u>	
	<u>UNITED KINGDOM AND SOUTH AFRICA</u>	74
3.1	INTRODUCTION	74
3.2	UNITED STATES	76
3.3	UNITED KINGDOM	85
3.4	SOUTH AFRICA	91
3.4.1	Cape Province	92

3.4.2	Transvaal	100
3.4.3	Orange Free State	107
3.4.4	Natal	109
3.4.5	Summary	112
3.5	AN OVERVIEW	114
<u>CHAPTER 4</u>	<u>CRITERIA FOR THE PROVISION OF</u>	
	<u>RESOURCE CENTRE SERVICES</u>	116
4.1	RESOURCE CENTRE	116
4.1.1	Planning	116
4.1.2	Functions	118
4.2	ACCOMMODATION	119
4.2.1	User Activities	120
4.2.1.1	Audio-Visual Room	121
4.2.1.2	Lecture Room	121
4.2.1.3	Computer Room	122
4.2.2	Materials Organisation	123
4.2.2.1	Resource Centre Office	123
4.2.2.2	Issue Counter	124
4.2.2.3	Catalogues and Indexes	124
4.2.2.4	Display	125
4.2.2.5	Storage : Software	126
4.2.2.6	Storage : Hardware	127
4.2.3	Materials Production	128
4.2.3.1	Workroom	128
4.2.3.2	Audio-Visual Workroom	129
4.2.3.3	Dark-Room	129

4.2.4	Equipment Repair and Maintenance	130
4.2.5	Furnishings and Lighting	131
4.2.5.1	Furniture	131
4.2.5.2	Lighting	131
4.3	STAFFING	132
4.3.1	Professional	134
4.3.1.1	Resource Centre Director	135
4.3.1.2	Teacher-Librarian	136
4.3.2	Technical Staff	138
4.3.3	Clerical Staff	138
4.3.4	Voluntary Staff	139
4.3.4.1	Pupil Assistants	139
4.3.4.2	Parents	140
4.4	RESOURCES : SOFTWARE	142
4.4.1	Stock Provision	143
4.4.2	Acquisition and Production	145
4.4.2.1	Commercial Production	146
4.4.2.2	In-House Production	147
4.4.2.3	Donations	149
4.4.3	Collection Development	150
4.4.3.1	Selection	151
4.4.3.2	Evaluation	151
4.4.3.2.1	Print Materials	152
4.4.3.2.2	Non-Print Materials	152
4.4.3.2.3	Stock Evaluation	153
4.4.3.3	Weeding	153
4.4.4	Educational Relevance	153

4.4.4.1	Radio	155
4.4.4.2	Television	156
4.4.4.3	Films	158
4.4.4.4	Video	160
4.4.4.5	Computer Disks or Cassettes	162
4.5	RESOURCES : HARDWARE	164
4.5.1	Stock Provision	165
4.5.2	Collection Development	166
4.5.2.1	Selection	166
4.5.2.2	Evaluation	167
4.5.3	Equipment Repair, Maintenance & Security	168
4.5.3.1	Equipment Repair	168
4.5.3.2	Maintenance	169
4.5.3.3	Security	169
4.5.4	Educational Relevance	170
4.5.4.1	Film Projector	170
4.5.4.2	Video Cassette Recorder and Camera	171
4.5.4.3	The Microcomputer	171
4.6	INFORMATION RETRIEVAL DEVICES	174
4.6.1	Dewey Decimal Classification System	175
4.6.2	Catalogues	176
4.6.2.1	Alphabetical Catalogue	177
4.6.2.2	Dictionary Catalogue	177
4.6.2.3	Classified Catalogue	177
4.6.3	Book Catalogues and Book Guides	178
4.6.3.1	Book Catalogues	178
4.6.3.2	Book Guides	178

4.6.4	Co-Ordinate Indexing	179
4.6.5	Book Blocks, Shelf Guides and Posters	180
4.6.6	Computerised Retrieval	181
4.6.6.1	Administration	181
4.6.6.2	User-Oriented	182
4.6.7	Audio-Visual Programs	182
4.6.8	Microforms	183
4.7	CIRCULATION CONTROL	184
4.7.1	Issue of Resource Materials	184
4.7.2	Discharge of Resource Materials	185
4.7.3	Loan Period	186
4.7.4	Fines	186
4.7.5	Stock Losses	187
4.7.6	Closed and Open Access	187
4.8	INTEGRATION WITH THE CURRICULUM	188
4.8.1	Integration with Teaching	189
4.8.2	Integration with Learning	189
4.8.3	Resource Centre and Integration	190
4.9	GUIDANCE AND INSTRUCTION	191
4.9.1	Guidance	193
4.9.2	Instruction	193
4.10	FINANCE	194
4.10.1	Annual Budget	195
4.11	SUPPORT SERVICES	196
4.11.1	Teachers' Centres	197
4.11.2	Educational Technology Centres	197
4.11.3	Museum Services	198

4.11.4	School Library Service	198
4.11.5	Education Library Service	198
4.11.6	'Model Library' Service	199
4.11.7	District Media Service	199
4.11.8	Regional Media Service	200
4.11.9	State Media Service	201
4.11.10	Networks	201
4.11.11	Media Resources Officer	202
4.11.12	Resources Support Group	203
<u>SECTION C : EMPIRICAL STUDY CONDUCTED IN TWO</u>		
	<u>SECONDARY SCHOOLS IN NATAL</u>	204
<u>CHAPTER 5</u>	<u>RESEARCH APPROACH, DESIGN AND EXECUTION</u>	204
5.1	METHODOLOGY	204
5.2	QUESTIONNAIRE DESIGN	205
5.2.1	Question Sequence	206
5.2.1.1	Pupils' Questionnaire [1]	206
5.2.1.1.1	Reading	207
5.2.1.1.2	Learning	208
5.2.1.1.3	Resource Centre Use and Procedures	208
5.2.1.1.4	Products and Assignments	208
5.2.1.1.5	Use of Materials and Equipment	209
5.2.1.1.6	Service	210
5.2.1.1.7	Functions	210
5.2.1.1.8	Suggested Improvements	210
5.2.1.2	Teachers' Questionnaire [2]	211
5.2.1.2.1	Personal	211

5.2.1.2.2	Resource Centre Use and Procedures	212
5.2.1.2.3	Use of Materials and Equipment	212
5.2.1.2.4	Attitudes	213
5.2.1.3	Teacher-Librarians' Questionnaire [3]	213
5.2.1.3.1	Personal	214
5.2.1.3.2	Resource Centre Personnel	214
5.2.1.3.3	Facilities	214
5.2.1.3.4	Services	215
5.2.1.3.5	Resource Centre Access	215
5.2.1.3.6	Communication	216
5.2.1.3.7	Problems and Solutions	216
5.2.1.3.8	Appendix to Questionnaire 3	216
5.2.2	Question Types	217
5.2.2.1	Dichotomous Questions	217
5.2.2.2	Filter Questions	218
5.2.2.3	Multiple-Choice Questions	218
5.2.2.4	Open-Ended Questions	219
5.2.2.5	Rated Questions	219
5.2.2.6	Ranked Questions	220
5.2.3	Question-Wording	220
5.2.3.1	Language	220
5.2.3.2	Instructions	222
5.2.3.2.1	Pupils' Questionnaire	222
5.2.3.2.2	Teachers' Questionnaire	223
5.2.3.2.3	Teacher-Librarians' Questionnaire	223
5.2.4	Question Numbering	224
5.2.5	Questionnaire Layout	225

5.2.5.1	Arrangement	225
5.2.5.2	Length and Time	226
5.3	PILOT STUDY	226
5.4	EXECUTION	227
<u>CHAPTER 6</u>	<u>IDENTIFICATION OF THE RESEARCH SAMPLE</u>	230
6.1	INTRODUCTION	230
6.2	CHOICE OF SCHOOLS	230
6.3	CHOICE OF STANDARDS	231
6.4	CHOICE OF PUPILS	232
6.5	CHOICE OF SUBJECT TEACHERS	232
6.6	THE TEACHER-LIBRARIANS	233
<u>CHAPTER 7</u>	<u>ANALYSIS OF THE DATA</u>	234
7.1	INTRODUCTION	234
7.1.1	Identification of Questionnaires	235
7.2	SCHOOL A	236
7.2.1	Facilities Offered by the Resource Centre	236
7.2.1.1	Accommodation	236
7.2.1.2	User Services	237
7.2.1.2.1	Workshops	237
7.2.1.2.2	Guidance	237
7.2.1.2.3	Displays	238
7.2.1.2.4	Liaison	238
7.2.1.2.5	Access to Resource Centre	239
7.2.1.2.6	Issue Statistics	240
7.2.1.3	Collection Development and Distribution	242

7.2.1.3.1	Current Resource Centre Collection	242
7.2.1.3.2	Print Materials	244
7.2.1.3.3	Software	244
7.2.1.3.4	Hardware	246
7.2.1.4	Resource Centre Personnel	247
7.2.1.4.1	Teacher-Librarian	247
7.2.1.4.2	Pupil Library Assistants	248
7.2.1.5	Technical Services	248
7.2.1.5.1	Subject Catalogues	248
7.2.1.5.2	Equipment Repairs	249
7.2.1.6	Specific Problems and Deficiencies	249
7.2.1.6.1	Problems	249
7.2.1.6.2	Deficiencies	250
7.2.1.7	Future Developments	251
7.2.1.8	Researcher's Impressions	251
7.2.2	Teachers' Responses to Questionnaire	252
7.2.2.1	General Science and Biology Teacher	252
7.2.2.2	Geography Teacher	253
7.2.2.3	English Teacher	254
7.2.2.4	History Teacher	255
7.2.2.5	Comparative Analysis	256
7.2.3	Pupils' Responses to Questionnaire	257
7.2.3.1	Introduction	257
7.2.3.2	Girls' Questionnaires	258
7.3	SCHOOL B	261
7.3.1	Facilities Offered by the Resource Centre	261
7.3.1.1	Accommodation	262

7.3.1.2	User Services	262
7.3.1.2.1	Workshops	262
7.3.1.2.2	Guidance	263
7.3.1.2.3	Liaison	263
7.3.1.2.4	Access	264
7.3.1.2.5	Issue Statistics	266
7.3.1.3	Collection Development and Distribution	267
7.3.1.3.1	Current Resource Centre Collection	267
7.3.1.3.2	Print Materials	269
7.3.1.3.3	Software	269
7.3.1.5.4	Hardware	271
7.3.1.4	Resource Centre Personnel	272
7.3.1.4.1	Director of Resource Centre	272
7.3.1.4.2	Teacher-Librarian	273
7.3.1.4.3	Questionnaire Response Discrepancies	273
7.3.1.4.4	Other Resource Centre Personnel	274
7.3.1.4.5	Pupil Library Assistants	275
7.3.1.5	Technical Services	275
7.3.1.5.1	Television Studio	275
7.3.1.5.2	Photocopying	276
7.3.1.6	Specific Problems and Deficiencies	277
7.3.1.6.1	Problems	277
7.3.1.6.2	Deficiencies	278
7.3.1.7	Future Developments	279
7.3.1.8	Researcher's Impressions	279
7.3.2	Teachers' Responses to Questionnaire	280
7.3.2.1	Biology Teacher	280

7.3.2.2	Geography Teacher	282
7.3.2.3	English Teacher	283
7.3.2.4	History Teacher	285
7.3.2.5	Comparative Analysis	286
7.3.3	Pupils' Responses to Questionnaire	287
7.3.3.1	Introduction	287
7.3.3.2	Boys' Questionnaires	288
7.3.4	Comparative Assessment of Pupils' Questionnaire	291
7.3.4.1	Introduction	291
7.3.4.2	Item-by-Item Analysis	292
7.3.5	Criticism of the Questionnaire	314
7.3.5.1	Errors	314
7.3.5.2	Inconsistencies	315
7.3.5.3	Omissions	316
7.3.5.4	Ambiguities	316
7.3.5.5	An Overview	317
7.4	DEFINING ATTITUDES	318
7.4.1	Attitude Assessment	320
7.4.2	Attitude Criteria	321
7.4.2.1	Frames of Reference	321
7.4.2.2	General Positive and General Negative	323
7.4.2.3	Pupils' Attitudes	323
7.4.2.4	Teachers' Attitudes	324

<u>SECTION D :</u>	<u>CONCLUSIONS AND RECOMMENDATIONS</u>	326
<u>CHAPTER 8</u>	<u>SUMMARY AND CONCLUSIONS RESULTING</u> <u>FROM THE EMPIRICAL STUDY IN RELATION</u> <u>TO THE POSTULATED HYPOTHESES</u>	326
8.1	SUMMARY	326
8.2	HYPOTHESES (See 1.3)	329
8.2.1	Hypotheses (1.3.1.1) Resource Centre integrated with the curriculum	329
8.2.2	Hypothesis (1.3.1.2) Resource Centre an essential element of individualised instruction	332
8.2.3	Hypothesis (1.3.1.3) Resource-based teaching more evident than resource-based learning	334
8.2.4	Hypothesis (1.3.2.1) Teacher encouragement is a significant factor in the use of resources	336
8.2.5	Hypothesis (2.3.2.2) Teachers determine whether resources will be used for teaching or learning	336
8.2.6	Hypothesis (1.3.2.2) A high rating of service and facilities indicates a relatively effective Resource Centre	337
8.2.7	Hypothesis (1.3.2.4) The creation of software indicates a particularly positive attitude to the use of resources in education	338
8.2.8	Hypothesis (1.3.2.5) Extensive use of hardware indicates a particularly positive attitude to the use of resources in education	340
8.2.9	Hypothesis (1.3.3.1) A greater use of resources is likely to occur in a rural boarding school	341

8.2.10	Hypothesis (1.3.3.2) Resources will be used more in the early years of Secondary Education	341
8.3	RESUME OF FINDINGS	342
8.4	CONCLUSION	343
<u>CHAPTER 9</u>	<u>RECOMMENDATIONS FORMULATED AS A RESULT OF THE EMPIRICAL STUDY AND THE LITERATURE SURVEY</u>	346
9.1	STANDARDS	346
9.2	RESOURCE SCIENCE	348
9.2.1	Resource Science and the Teacher-Librarian	350
9.3	RESOURCE CENTRE DIRECTOR	352
9.4	THE PRINCIPAL AND THE RESOURCE CENTRE	353
9.5	RESOURCE CENTRE STAFFING	354
9.6	TEACHING METHODOLOGY	355
9.7	SUPPORT SERVICES	356
9.7.1	Central Processing	357
9.7.2	Area Resource Centre	358
9.7.3	Resources Support Group	359
9.8	DEMONSTRATION RESOURCE CENTRE	360
9.9	RESEARCH UNIT	362
9.10	SERVICES INTEGRATION	363
9.11	SUMMARY OF RECOMMENDATIONS	364
9.12	CONCLUDING STATEMENT	366
GLOSSARY		368
ABBREVIATIONS		378

APPENDICES

APPENDIX 1	MEDIA CENTRE PLAN	379
APPENDIX 2	100 REPRESENTATIVE MEDIA CENTRE TASKS	380
APPENDIX 3	EVALUATION CRITERIA - BOOKS	381
APPENDIX 4	EVALUATION CRITERIA - CHARTS, FILMS, SLIDES, TRANSPARENCIES, GLOBES, MAPS, TAPES, RECORDS, PICTURES AND PRINTS	382
APPENDIX 5	EVALUATION FORM - FOR ASSESSMENT OF AUDIO-VISUAL RESOURCES	383
APPENDIX 6	EVALUATION CRITERIA - AUDIO, VISUAL AND AUDIO-VISUAL EQUIPMENT	384
APPENDIX 7	DEWEY DECIMAL CLASSIFICATION - ABRIDGED FOR SCHOOLS	385
APPENDIX 8	JOB DESCRIPTIONS OF RESOURCE CENTRE PERSONNEL	386
APPENDIX 9	PUPILS' QUESTIONNAIRE [1]	387
APPENDIX 10	TEACHERS' QUESTIONNAIRE [2]	388
APPENDIX 11	TEACHER-LIBRARIANS' QUESTIONNAIRE [3]	389

TABLES

1.	EDUCATIONAL PRACTICES IN TRANSITION	35a
2.	COMPARISON OF THE STAFFING RECOMMENDATIONS OF THE LA AND THE ALA	133
3.	DISTRIBUTION OF RESPONSIBILITIES IN THE RESOURCE CENTRE	141
4.	SCHOOL LIBRARY RESOURCE CENTRES : CALCULATED NUMERICAL LEVELS OF STOCK PROVISION	144
5.	RESPONDENTS BY STANDARD AND SEX	229
6.	NUMBER IDENTIFICATION OF PUPILS' AND TEACHERS' QUESTIONNAIRES	235
7.	SCHOOL A. SOFTWARE ISSUED DURING SECOND TERM 1984	240
8.	SCHOOL A. HARDWARE ISSUED DURING SECOND TERM 1984	241

9.	SCHOOL A. SOFTWARE COLLECTION AS AT AUGUST 1984	242
10.	SCHOOL A. HARDWARE COLLECTION AS AT AUGUST 1984	243
11.	SCHOOL B. SOFTWARE COLLECTION AS AT AUGUST 1984	267
12.	SCHOOL B. HARDWARE COLLECTION AS AT AUGUST 1984	268
13.	RESPONDENTS BY STANDARD AND SEX	291
14.	FREQUENCY OF VISITS TO THE RESOURCE CENTRE	294
15.	REASONS FOR VISITING THE RESOURCE CENTRE	296
16.	SOFTWARE <u>USED</u> DURING THE PERIOD JANUARY-AUGUST 1984	305
17.	SOFTWARE <u>MADE</u> DURING THE PERIOD JANUARY-AUGUST 1984	307
18.	HARDWARE <u>USED</u> DURING THE PERIOD JANUARY-AUGUST 1984	309
19.	POSTULATED FRAMES OF REFERENCE FOR ATTITUDE DETERMINATION	322
20.	PREDOMINANTLY POSITIVE AND PREDOMINANTLY NEGATIVE ATTITUDES AS DETERMINED BY POSTULATED CRITERIA	325
	BIBLIOGRAPHY	390

'THERE CAN BE NO SIGNIFICANT INNOVATION IN EDUCATION THAT DOES NOT HAVE AT ITS CENTRE THE ATTITUDES OF TEACHERS ... THE BELIEFS, FEELINGS, AND ASSUMPTIONS OF TEACHERS ARE THE AIR OF A LEARNING ENVIRONMENT, THEY DETERMINE THE QUALITY OF LIFE WITHIN IT.'

(Postman & Weingartner, 1969 : 43)

SECTION A : INTRODUCTIONCHAPTER 1THE RESEARCH PURPOSE, INTENDED METHODOLOGY ANDDEFINITION OF TERMS

## 1.1

INTRODUCTION

The researcher's interest in the field of resource centres (see 1.5.1) came about as a result of his appointment, in 1980, as a teacher-librarian in a secondary school of the Cape Education Department, situated in Cape Town, with the objective of developing its library into a resource centre by augmenting its services through the enhanced use of audio-visual materials. A qualified teacher-librarian was already responsible for the print materials in the library, and this additional post was created to expand the library's function (see 3.4.1).

With a foundation of four years' practical experience the researcher wished to assess the attitudes of teachers and pupils to the resource centre, as reflected in the utilisation of its resources and facilities and the comments of its users. A preliminary investigation of the pertinent literature revealed that such an assessment would be an area worthy of research.

1.2

STATEMENT OF THE PROBLEM

By 1984 there were few resource centres in secondary schools falling under the Cape Education Department (CED) which had adequate facilities and sufficient software and hardware to permit such research (Beswick, 1981 : 102). Furthermore, neither the pupils nor the teachers in any of the CED schools had been exposed to the resource centre concept long enough to enable the researcher to test their level of acceptance of this concept within the schools concerned. Consequently it was decided to conduct an empirical survey in Natal, which had promoted resource centres in secondary education since 1971 (see 3.4.4), thus ensuring a depth of experience and considerable use by both teachers and pupils.

The resource centre has as its *raison d'être* the idea of independent learning in terms of which the pupil becomes actively involved in his own learning from a variety of resources made freely available to him. The researcher was particularly interested in exploring the potential of the resource-based learning approach as distinct from that of resource-based teaching, and wished to determine to what extent the reality matched the stated ideal of the former in the context of the integration of resource centre services with teaching programs in secondary education. If the resource centre were to succeed as an independent learning

centre there are three inter-related key factors in its optimal utilisation, namely the pupil, the teacher and the teacher-librarian. The overall attitude of each is of crucial importance, and Fothergill (1973 : 51) has pointed out that 'A successful innovation depends on the willing co-operation of the participants, and such an attitude of mind is a necessary precursor for resource-based learning'.

Resource-based education implies furthermore that the pupil would have to accept more responsibility for his own learning experiences, the teacher providing support, while gradually relinquishing control of the education process. 'Control', it was noted, is an important concept, highlighted in the literature in such statements as:

teachers generally have a deep distrust, amounting to hostility, to anything which they cannot control ... (Evans, 1975 : 47).

the more control you want the student to have over his own work the more you are likely to individualise it so that it becomes particular to him and the more likely you are to need a resource-oriented approach. (Davies, 1978 : 38).

Few teachers are willing to take such steps into such dangerous territory of potential failure [experimenting with new learning methods], particularly as they are aware of insecurity and loss of personal control when they do (Fothergill, 1973 : 44).

The teacher-librarian in his turn has a vital role to play in the promotion of the resource centre, and it is only by virtue of his positive attitude to independent learning and

resource service support for teachers and pupils that meaningful integration of resources and the curriculum can occur. For such a task the teacher-librarian requires qualifications in both education and librarianship and the time to put the competencies of these two professions into practice. By implication this means working in a full-time capacity in the resource centre to provide a service to the school as a whole. It has therefore been important to determine the extent to which theory is matched with practice in relation to the schools in this empirical study.

The researcher's interest in resource centres and his work in the field imply a favourable inclination to their educational role and this predisposition must be acknowledged a priori. This research, concerned principally with the use of non-print materials, is influenced to the degree that books and other print materials are seldom mentioned, although recognised ipso facto as essential in the learning process for reference and recreational purposes. Similarly, the citations presented may be indicative of the writers' particular leanings towards their subjects. The reader, no less than the researcher is predisposed to views which he has conceived and formulated as a result of past experiences and which may therefore not be value free in all instances. Consequently, whatever

opinions are presented in the body of the thesis unavoidably reflect to some degree the personal point of view of the researcher or writer cited.

### 1.3

#### HYPOTHESES

##### 1.3.1

#### MAIN HYPOTHESES

1.3.1.1 That the resource centre is an integral part of the implementation of the modern school curriculum as evident from teacher and pupil attitudes and patterns of use.

1.3.1.2 That the resource centre is an essential element of individualised instruction as evident from pupil attitudes and patterns of use.

1.3.1.3 That resource-based teaching is more in evidence than resource-based learning in contemporary secondary education.

## 1.3.2

SUB-HYPOTHESES

1.3.2.1 That teacher encouragement to use the resource centre is a significant factor in the use of resources by pupils.

1.3.2.2 That teachers determine whether resources will be used primarily for teaching (teacher controlled) or for learning (pupil controlled).

1.3.2.3 That a high rating accorded to the service and facilities, by teachers and pupils, is indicative of a relatively effective resource centre and conversely a low rating of a relatively ineffective one.

1.3.2.4 That the creative involvement in the production of software items by teachers and pupils is indicative of a particularly positive attitude to the use of resources in education and, by implication, to the resource centre as an educational instrument.

1.3.2.5 That the extent of hardware use by teachers and pupils is equally indicative of a particularly positive attitude to the use of resources in education and, by implication, to the resource centre as an educational instrument.

## 1.3.3

SPECIFIC SUB-HYPOTHESES

These hypotheses will be examined à propos indications derived from general experience and references in the provisional literature survey.

1.3.3.1 That a greater use of resources is likely to occur in a rural boarding school than in an urban day school.

1.3.3.2 That a greater use of resources is likely to occur in the earlier years of secondary school rather than the later.

## 1.4

PROPOSED RESEARCH METHODOLOGY

## 1.4.1

LITERATURE SURVEY

As a background to the role of resource centres in secondary education a representative literary survey will be undertaken, with particular reference to sources commenting on developments in the United States and the United Kingdom, as acknowledged leaders in the field (see 3.1), supplemented by literary sources concerning resource centre development in South Africa.

## 1.4.2

EMPIRICAL STUDY

Subsequent to the literature survey an empirical study will be conducted in Natal in the schools specified (see 6.2).

It is envisaged that the data required for the study will be collected by means of questionnaires, necessitating the compilation of three separate questionnaires for pupils, teachers and teacher-librarians, to provide three different attitudinal perspectives (see 5.1).

The preliminary literature survey has emphasised the principal's attitude as an important factor in the effectiveness of the resource centre (Blair, 1981 : 136). However, as the present survey is intended as a micro-study of only two sample schools, no general conclusions regarding principals' attitudes can be postulated; but it is nevertheless considered that attitudes on this level may well be reflected in the extent of the facilities at the schools examined, the use made of them, and the attitude of the teacher-librarian.

Despite the fact that only two schools are to be used in the survey, questionnaires will be administered to four classes, representing a total of some 120 pupils; a large sample,

given the constraints of manageability in an investigation at master's level.

The researcher plans to visit each school and personally administer the questionnaire to the pupils, while the teachers and teacher-librarians complete their respective questionnaires in their free time.

It is intended that the data analysis of the pupils' questionnaires will be done by computer because of the large number of respondents; the teachers' questionnaires and those of the teacher-librarians' will be analysed manually because of the comparatively small number involved.

## 1.5

### TERMINOLOGY

#### 1.5.1

##### RESOURCE CENTRE

With the expansion of school library book collections to include audio-visual materials and equipment, new terminology came into being. In the United States the term 'media', signifying a variety of formats, became the accepted designation in that country. Moreover, a directive from the American Association of School Librarians in 1977, stipulating that the designation 'school library media

center' be used in place of 'school library', emphasised the change (Carroll, 1981 : 5). The retention of the word 'library', and the addition of the words 'media center', were indicative of the 'add-on' stage of audio-visual materials, which had previously been regarded as aids for the classroom teacher. But, in retrospect, the choice of terminology may have been a wise decision in that the concept was not totally alien to the users. Ellsworth, writing some 22 years ago, was of the opinion that: 'The school library will be called a library ... The reason for this simply is that the word 'library has time-honoured meaning' (1963 : 11).

The researcher is able to vouch for this on the basis of his current experience, as five years of emphasising the 'media centre', not the 'library', have had little impact thus far, as the latter term is still current and is associated with the book collection.

In the United Kingdom the term 'resources' was used extensively as an all-embracing designation inclusive of human resources, for the community was considered a valuable source of knowledge, experience and expertise which could be tapped to the school's advantage. The 'school library' then became known as the 'school library resources centre', a term widely used in the literature (see Waterhouse, 1977; Beswick, 1972), but now recognised by the Library Association as the 'school library resource centre':

It is now commonly accepted that book and non-book items ... should be regarded as part of a unified collection, for use in a variety of contexts and circumstances according to need. This is implicit in the growing use of the term 'school library resource centre'. (Library Association, 1977 : 9)

In South Africa the term 'media centre' was adopted by the Transvaal, the Orange Free State and the Cape Province, but Natal had earlier opted for the designation 'resource centre' as revealed in an article by Wilson (1977 : 47):

In the school situation library conveys the concept of the organization and utilization of books. The concept of the resource centre is a far wider one, for it embraces not only books and printed material, but a variety of audio-visual materials.

As the empirical research for this thesis was conducted in Natal schools the terminology 'resource centre' will predominate, but the terms 'media centre' or 'library' may occur in the citations; in the text, following historical usage; or to provide stylistic variation, and are used synonymously.

Other synonyms which may be found in the literature and are indicative of the search for acceptable terminology are 'instructional media centre'; 'learning materials centre'; 'learning resource centre'; 'multi-media centre'; 'library resource centre' and 'comprehensive library' (UNESCO; 1978 : 2). The term adopted by the United Nations Educational

Scientific and Cultural Organisation (UNESCO) is 'media centres' for English-speakers and 'centres multimédia' for French-speakers (ibid).

### 1.5.2

#### TEACHER-LIBRARIAN

Traditionally, in the United States, the United Kingdom and South Africa, the running of the school library was seen as a part-time job for a member of staff who tended to be a language teacher with an interest in the library (L A, 1977 : 15); (Ivers, 1984 : 42). With the growing importance of the school library in the United Kingdom, following curriculum innovation, inter-disciplinary co-operation, and the emphasis on independent learning (L A, 1977 : 7; see also 2.3.3.2.2) the administrative burden was increased and it was realised that teachers working in school libraries required training in librarianship. In-service courses were offered and some teachers attended these while others completed full-time diploma courses to achieve their professional qualification in librarianship (Beswick, 1972 : 81).

Between 1970 and 1975 librarians in the United Kingdom, designated charter librarians, were appointed to comprehensive schools, to be responsible for the embryonic school library resource centres and to provide professional

standards in cataloguing and classification (L A, 1977 : 15). Some of these librarians acquired teaching qualifications by doing one-year full-time courses which were approved by the University of London, Institute of Education in 1972 (Beswick, 1972 : 81). It has been accepted by the Library Association in the United Kingdom, and recommended in the Bullock Report, that school librarians be dually qualified in teaching and librarianship (L A, 1977 : 15).

In South Africa dual qualification is the official requirement for a post in a school library or resource centre but, as in the United Kingdom (Ivers, 1984 : 41), there is a shortage of such qualified personnel. In this study the teacher-librarian in School A was completing her library qualification by part-time study, while the teacher-librarian in School B had dual qualifications. In both schools the teacher-librarians had subject teaching commitments.

### 1.5.3

#### RESOURCE CENTRE DIRECTOR

In School A the person with overall responsibility for the resource centre was called the 'director', and was a senior member of staff with teaching and administrative duties.

His brief included the control and use of the lecture theatres and ancillary equipment while the teacher-librarian was concerned with the administration of the resource centre including its accessioning, classifying and cataloguing functions.

SECTION B : LITERATURE SURVEYCHAPTER 2AN HISTORICAL OVERVIEW OF EDUCATIONAL THEORY AND PRACTICE  
AND THEIR IMPLICATIONS FOR SCHOOL RESOURCE CENTRES

## 2.1

EDUCATIONAL PHILOSOPHERS

In order to place the development of resource centres in its broad historical-educational perspective a brief account of the trends in educational thought seems necessary. By its very nature such an account cannot be exhaustive or even comprehensive in regard to the full spectrum of educational theory in its historical context. For the purposes of this study an attempt will therefore be made to highlight, as representatively as possible, the major currents of educational philosophy and general theory in the history of western civilisation.

## 2.1.1

PLATO AND ARISTOTLE

The foundations of Western educational philosophy and practice are to be sought in Ancient Greece and the writings

of the Greek philosophers, notably Plato (428-347 B C) and Aristotle (384-322 B C):

... for more than two thousand years - in effect down to the eighteenth century - all educational thought consisted of variations and developments of [the] educational ideas [of Plato and Aristotle] (Bowen & Hobson, 1974 : 12).

The main goal of education was to produce worthy citizens for the benefit of the state. This goal was to be achieved by community institutions and by emulating the older generations. The citizens themselves were regarded as the educational authorities and the school only one socialising institution among many (Lodge, 1947 : 12). Citizenship was attainable only by the aristocratic classes and hence had elitist overtones:

... all children are assessed by adults and judgments made on their intellectual capacities : the fittest proceed and the less fit fall by the wayside (Bowen & Hobson, 1974 : 28).

The similarity with educational practices, still extant, is noteworthy.

In his teaching Plato wished to instil in his students the methodology of learning rather than the end result (Power, 1962 : 92). This approach anticipated modern educational thinking which seeks to teach the child how to learn, stressing the process rather than the content.

The idealism of Plato, who decried sensory experience in the search for true knowledge, as illusory, stood in direct contrast to the empiricist philosophy of Aristotle who believed in turn that the source of all knowledge was the result of sensory experience and that man's highest function was the achievement of rationality in thought and conduct (Wilds & Lottich, 1970 : 104). However, Plato and Aristotle were in agreement regarding state control of education and the moulding of children to the state's requirements with education the same for all.

Education, in Aristotle's opinion, was to be pursued throughout life as a leisure activity and as an end in itself. Such a concept of continuing education was to have far-reaching implications for today's changing world:

This provided the basis for a very important strand of educational thought that occurs repeatedly to the present day - the view that the essential meaning of education lies in its intrinsic and non-utilitarian values (Bowen & Hobson, 1974 : 90).

The classical tradition of Ancient Greece went into decline during the Middle Ages in an era when church and religion were paramount and a clerical monopoly of education prevailed which 'aimed to equip men for their journey to heaven rather than their exploration of the ways of this world' (Power, 1962 : 310).

However, when the concomitant movements of the Reformation and Humanism came to the fore in the early 16th century, there was a rejection of church authority and a renaissance of Greek, Roman - and, to a lesser extent, Hebrew - classics. The aspirations and ambitions of the individual were extolled, as were the beauty of nature and the value of cultural pursuits (Wilds & Lottich, 1970 : 210). Man in his non-transcendental nature began to contemplate ultimate reality in the mainstream of secular culture:

For humanism, which was the vital element in the Revival of Learning, consists mainly of a just perception of the dignity of man as a rational, volitional and sentient being, born upon this earth with a right to use it and enjoy it. Humanism implied the rejection of those visions of a future and imagined state of souls as the only absolute reality ... (Kesting, 1984 : 262).

### 2.1.2

#### DESIDERIUS ERASMUS (1466 - 1536)

Erasmus was a major proponent and teacher of renaissance humanism. His educational ideas were based on a classical education with an emphasis on language and a notable respect for physical education. Individual differences and talents of children were acknowledged and he accepted that learning and life were not separate entities (Power, 1962 : 376).

Praise and reward, as motivating features of education, were advocated, and he stressed that successful learning could be achieved by concentrating on small sections of work (Wilds &

Lottich, 1970 : 221). Parental responsibilities in early childhood education were acknowledged as of prime importance, with courtesy and good manners as salient features. The teacher was urged 'to give to learning the qualities of freedom and enjoyment' (Woodward, 1924 : 217).

The period of the Reformation, which coincided with the rise of humanism, was one of considerable ferment, touching all facets of man's life and involved 'The political, economic, religious, moral, philosophical, literary and institutional changes of the most sweeping character ...' (Eby & Arrowood, 1934 : 29).

### 2.1.3

#### MARTIN LUTHER (1483-1546)

Luther, a contemporary of Erasmus, was an Augustinian friar and proponent of religious moralism who defied the church because of its corrupt practices and was excommunicated as a result. In conjunction with fellow reformers he drew up basic principles in which the church was no longer accepted as omnipotent and omniscient, but the individual's judgement and responsibility in religious matters was given due recognition (Wilds & Lottich, 1970 : 231).

Luther was - as far as is commonly assumed - the first educator of stature to propose compulsory, universal and

free schooling in Europe. He believed in the principle of subject content being adjusted to the child and advancement to higher education only for the most capable. In his desire to spread the benefits of education to all he promoted music and history as part of the curriculum; biblical studies being the cornerstone of his educational policy to achieve his objective of mother-tongue instruction. He translated the bible into German (ibid : 233-37), thus making its content accessible and comprehensible to the common man, and by so doing, assisting in the spread of literacy throughout Germany.

With the Reformation public education was advocated as a defiance of the Roman Catholic Church. Responding to this challenge against church authority Catholic teaching orders were created.

#### 2.1.4

##### IGNATIUS LOYOLA (1491-1556)

The Spanish Catholic priest Ignatius Loyola founded the Society of Jesus in 1524 with the stated goal of leading man 'towards knowledge of, and love for, God' (Verster, 1982 : 14). The Jesuit educational program of classical Latin, taught from prepared textbooks and a course of carefully selected literary works, sought leaders who were steeped in church doctrine and ready to promote Catholicism

and the order itself (Power, 1562 : 403-4); (Wilds & Lottich, 1970 : 244-45).

Such an education indicated a separation of school learning and the activities of real life, in contradistinction to the educational objectives of humanism (see 2.1.2).

#### 2.1.5

#### THE LIBERATION OF SCIENCE (16th - 18th CENTURIES)

During this significant historical period there was an upheaval in education, partly as a rejection of the narrow Greek and Latin formalism practised in the schools, and partly as a result of the advancement of scientific and mathematical knowledge revealed by the discoveries of Galileo (1564-1642) - the invention of the telescope; Newton (1642-1727) - the law of gravitation; Boyle (1627-1691) - the theory of gases and of the vacuum; Harvey (1578-1657) - the circulation of the blood; and the development of logarithms by Napier (1550-1617), calculus by Leibniz (1646-1716) and analytical geometry by Descartes (1596-1650) (Wilds & Lottich, 1970 : 268).

These discoveries, among others, resulted in the methodology of science gaining currency and a scientific realism movement came into being which questioned the relevance of the curriculum which 'must be valid and, moreover, must have

meaning and be capable of practical application; [and] pedagogical techniques should be based on the clearest principles of human learning (Power, 1962 : 414).

#### 2.1.6

#### JOHN COMENIUS (1592-1670)

Comenius, who is generally considered the father of modern education, was an exponent of the philosophy of pragmatism and empiricism. He believed in learning by doing and valued sensory experience as is evident from his well-known declaration: 'As far as possible, nature, (the great textbook) must be used as the source of study' (cited in Verster et al, 1982 : 16). Individual differences in the innate personality of the learner were acknowledged, and he advocated that subjects should be dove-tailed wherever possible, linked to student maturity, abilities and interests, and have practical value: 'Whatever is taught should be taught as being of practical application in everyday life and of some definite use' (Power, 1969 : 236).

Continuing a tradition launched by Luther and others Comenius supported the idea of teaching the vernacular languages, as an adjunct of universal education. As a pragmatist he suggested a practical approach with models and demonstrations (Power, 1962 : 430). The contribution of Comenius to educational theory and practice has been

significant. It is succinctly summarised in the following paragraph:

Comenius's ideas for pre-school home training surpass even the most advanced modern ideas of the kindergarten role in public education. Instruction in the native tongue of the pupil, graded subject matter, psychological adjustment to the maturing student, all are accepted without question in today's school programs. Parents and educators are willing to consider the nature of the child's mind and to correlate thoughts and things ... and schools try to gear their programs to bring life and learning as closely together as possible. (ibid : 433)

Comenius produced textbooks in the vernacular which contained the core material that the pupil was required to know. The teaching and learning was by reading, explanation and repetition (Power, 1969 : 231).

#### 2.1.7

##### JOHN LOCKE (1622-1704)

The empiricist philosopher, John Locke, a contemporary of Comenius, stressed moral rather than intellectual education. He was an adherent of disciplinism in his advocacy of exercising mind and body to increase individual capacities and develop character (Wilds & Lottich, 1970 : 288). He conceived the child's mind as a 'tabula rasa' on which was imprinted knowledge gained through experience. Learning must proceed from the simple to the complex and be adapted to the learner:

He [Locke] wanted teaching to be more efficient ... compulsion removed from all learning and teaching techniques. ... children should never come to associate the idea of punishment with learning. Learning should be made attractive and pleasant. The introduction of games and play in the school in connection with lessons to be learned would do away with the drudgery and boredom (Power, 1962 : 450).

Locke and Comenius emphasised the importance of direct experience, relevance and usefulness in their approach to education. It was universal education that was proposed following the path of nature, a gradual development from within. This call for universal education led to the stirrings of democracy, but in the climate of religious dogmatism and the arbitrary authority of church and state a reaction set in, leading to the age of secular rationalism. The emphasis was on reason and sensation and the concomitant devaluation of emotion and intuition, as vehicles of cognition, whereby man would discover truth primarily through logical thought:

Rationalism aimed at developing an individual who could control all the aspects of his life by means of a coldly critical reason and who could suppress all spontaneous enthusiasm and feeling (Wilds & Lottich, 1970 : 295).

#### 2.1.8

#### JEAN JACQUES ROUSSEAU (1712-1778)

Naturalism, which partly developed from rationalism and empiricism, likewise rejected religious authority, but also the coldly analytical and intellectual approach to life of

the rationalists. Rousseau was a major exponent of naturalism, believing that the child should develop according to his own nature; education thereby contributing to the full realisation of the potential of each individual. The concept of readiness was the cornerstone of Rousseau's educational thinking and he was responsible for the following new educational trends:

1. appreciating the value of discovery learning and problem-solving as educational techniques;
2. confining the child's early learning to things that are within his own experience and therefore have meaning for him;
3. stressing the rights of each child to individual consideration, freedom and happiness;
4. realising the need to understand the child's nature and the way this develops through boyhood and adolescence, and using the knowledge of this in determining what he should learn at each stage of his development (see 2.1.12);
5. treating the child as a being in his own right, not just a miniature adult, and therefore stressing the enrichment of his present experience rather than preparing him for some distant future (Bowen & Hobson, 1974 : 132).

The influence of Rousseau was considerable, and child-centred education became, and still is, the focus of much educational thinking and practice.

#### 2.1.9

##### JOHANN PESTALOZZI (1746-1827)

A contemporary of Rousseau was the eminent educationist Pestalozzi, who was an empiricist by conviction. He stressed sensory perception and the study of real objects in the educational process. Pestalozzi believed that structured environmental experiences should be provided by the teacher and the pupil taught to observe and to think. Physical and moral education were necessary for the full development of the child and in self-activity was the key to learning (Curtis & Boulton, 1975 : 338-340):

The highest and best form of any human skill, accomplishment or virtue is achieved through performance and practice, in the right conditions, from the elementary beginnings initiated by natural human impulses. (ibid : 341)

#### 2.1.10

##### HERBERT SPENCER (1820-1903)

Spencer, a scientist and agnostic, was influential in promoting scientific method and content as part of the school curriculum. This resulted in a more scientific approach to education as a whole. In Spencer's view first-

hand observation and practice were essential aspects of learning, and as science was the basis of education, it was the key to all knowledge for 'necessary and eternal as are its truths, all Science concerns all mankind for all time' (Spencer, 1949 : 50).

The crucial element in the educative process is self-discovery, for, as Spencer underlines 'any piece of knowledge which the pupil has himself acquired - any problem which he himself has solved, becomes, by virtue of the conquest, much more thoroughly his than it could else be' (ibid : 93).

Notwithstanding Spencer's emphasis on self-discovery there was much rote learning in 19th century Europe. The pupils were drilled to develop their faculties - memory and will - and this was known as formal discipline. A set body of finite knowledge was taught, much of which was memorised for 'the purpose of teaching was to get a verbal symbolic pattern of knowledge across into the supposedly receptive mind of the child' (Bowen & Hobson, 1974 : 167).

Large classes meant the teacher had to uphold discipline to ensure attention. Consequently pupil passivity was praised and the teacher was the figure of authority who punished offenders and rewarded conformers.

It should be noted in passing that certain elements of 'formal discipline' are sometimes present in today's schools, with the teacher as the authority figure disciplining the class to retain control, when necessary, but generally with relatively passive pupils.

#### 2.1.11

#### JOHN DEWEY (1859-1952)

The passive approach to education on the part of the pupils, nurtured by Spenserian authoritarianism, was rejected by Dewey as sterile:

Children under this scheme were taught by virtue of the preordained curriculum, to see the world as fixed, finished and ordered. Their only possible accomplishment would be to see how much of it they could memorise (Bowen & Hobson, 1974 : 169).

Dewey's pragmatic viewpoint was that pupils should be actively engaged in learning from real-life situations following a process of critical enquiry. The links between home and school were fundamental to new learning experiences for the child and the school was seen as a microcosm of the community:

Stimuli for learning and control over the conditions of learning should not come from the teacher but from the total social environment of the school, and the teacher's function is to select experiences to affect the child and to assist him in responding to these experiences. (Power, 1969 : 361)

Dewey, commenting on the lack of essential educational facilities reveals his concept of true education as involving 'the workshop, the laboratory, the materials [and] and the tools with which the child may construct, create and actively enquire (cited in Bowen & Hobson, 1974 : 174).

#### 2.1.12

##### MARIA MONTESSORI (1870-1952)

Montessori believed that the child could be educated by following the laws of his own natural development. Achievement in learning was its own reward which provided the child with motivation for further achievement, for 'his own self-development is his true and almost his only pleasure' (Montessori, 1965 : 356).

For Montessori the correct psychological moment to satisfy the child's need was paramount for full development. The training of the senses, through structured exercises and specially devised apparatus, was a key component of her educational system (Rusk, 1969 : 287).

#### 2.1.13

##### JEAN PIAGET (1896-1980)

A key figure in modern child-centred education is Jean Piaget, who concentrated his research on the origin and

development of thought in children. This resulted in a detailed conception of child development and the approximate ages at which various stages of such development occur. Five stages of intellectual development were identified, viz:

1. SENSORI-MOTOR PERIOD (birth to 18 months - 2 years)

The child learns about the world through his senses. He creates an internal 'mini-model' of the world which is modified by experience.

2. PRE-OPERATIONAL THOUGHT (2-4 YEARS)

Development of language but limited perception of external world.

3. PERIOD OF INTUITIVE THOUGHT (4-7 YEARS)

A greater appreciation of the true properties of things develops and with this classification of objects with common properties.

4. PERIOD OF CONCRETE OPERATIONS (8-11 YEARS)

Here the child can co-ordinate several viewpoints into a logical system but not abstract principles.

## 5. PERIOD OF FORMAL OPERATIONS (12-15 YEARS)

Ability to abstract principles from concrete experiences. Deductive and inductive reasoning are now evident.

Replicators of Piaget's research (Inhelder, 1959; Beard, 1968; Mealings, 1963) accept the stages of development as outlined with each stage rooted in the preceding one and only developing within the limits decided upon by the preceding stage:

... the order of the periods of development is constant; one structure cannot appear before another in a certain number of children and after it with another group of children. But the age at which a stage is realized cannot be absolutely fixed, for it is always relative to the environment which may encourage, impede or even prevent its appearance. (Beard, 1969 : 16)

Mental age, as distinct from chronological age, is the important factor and Piaget stresses throughout his work the value of experience. The child must be exposed to as wide a variety of experience as possible.

2.1.14

### GOALS OF EDUCATION

The goals of education, as advocated by some of the educational philosophers in this brief historical overview have themselves changed little, although their emphasis may have changed over time.

Plato's views on education for citizenship; Aristotle's idea of life-long education; Erasmus' suggestion of linking life and learning and promoting praise and reward as motivating factors; Luther proposing compulsory universal education and vernacular Bible studies; Comenius' stress on usefulness and the practical value of education, taught in the mother-tongue; Locke's advocacy of games and play as a means to learning; Rousseau's promotion of child-centred education and stress on the value of discovery learning and problem solving; Pestalozzi's emphasis on the study of real objects by the pupil who should be trained to observe and think; Spencer's underlining of the value of scientific observation and practice; Montessori's promotion of individualised instruction consequent to her belief in critical periods for self-development, foreshadowing Piaget's identification of intellectual and mental stages of development in children, and Dewey's advocacy of real-life situations and critical enquiry are all echoed as elements in modern educational theory and practice, and in the social, political and cultural values presented as goals of education and cited by Davies (1974 : 13). The individual must be given opportunities to develop himself to his full potential, intellectually, spiritually and artistically and include an awareness of, and commitment to, the free society and nation of which he is a part.

In the United States concern has been expressed about the quality of education and concomitantly of its people, giving rise to the goal of excellence in all educational endeavours (Nation at risk, 1984). The survival of the nation, it is submitted, depends on the quality of its citizens whose personal worth is characterised by: 'self-discipline, authentic concern for the well-being of one's fellow man, respect for law and order and a deep abiding love of nation' (ibid).

Such personal attributes are reminiscent of Plato's requirements for the ideal citizen of the ideal state. In his teaching Plato was concerned more with methodology than content as are today's educators in a world of change:

Changingness, a reliance on process, rather than upon static knowledge, is the only thing that makes sense as a goal for education in the modern world (Rogers, 1969 : 104).

Education has an important function to play in developing the independence of the pupil by providing a variety of leadership roles within the school. Perhaps the ultimate goal is that proposed by Waterhouse (1983b : 18).

Autonomy, with its connotations of responsibility and rationality and authenticity, has a rightful place in the major aims of an education system.

Such proposals likewise are not new: they echo Aristotle's concept of man's highest function, viz 'the achievement of rationality in thought and conduct' (Wilds & Lottich, 1970 : 104).

2.1.15

#### IMPLICATIONS FOR RESOURCE CENTRES

In the overview presented the educators have stressed the importance of the individual and the active part he has to play in his own learning. Where the learner is accepted as a unique individual with specific learning requirements in content, method and style it follows that a wide variety of experiences, which employ some or all of the human senses, and other cognitive faculties may provide motivation for individual learnings.

In problem solving and discovery learning, where a practical approach is implied, models and apparatus are necessary to enable problems to be solved and discoveries to be made.

The significance of the theories outlined to the emergence of resource centres with their multiplicity of materials, offering a wide range of sensory learning experiences, their emphasis on individualised instruction, and their link with community resources, is self-evident.

## 2.2

SOCIETY EDUCATION AND CHANGE

## 2.2.1

SOCIETY AND CHANGE

Change is a fundamental principle in society, the importance of which is underlined in the following citation:

We live in a transient society where the only constant phenomenon is change, where the only security is the knowledge that tomorrow is going to be very different from today, and that yesterday will be the subject matter for next year's history syllabus. (cited in Hopson & Scally, 1981 : 14).

The implications of constant change are far-reaching and are particularly noteworthy in the context of industrialised Western countries in relation to technology, employment and the increase of knowledge, which in turn have a significant effect on the changing patterns of education (see 2.3; Table 1).

## 2.2.1.1

TECHNOLOGY

The state of accelerating change is perhaps most visible today in the field of technology. This has occurred of late, inter alia, as a result of microelectronics where the microchip can now perform ten million operations instantly

EDUCATIONAL PRACTICES IN TRANSITION

**Table 1**  
**A Model Depicting Change as Sequential, Emergent and Transformational**

<u>STAGE I</u>	<u>STAGE II</u>	<u>STAGE III</u>
	<i>Developments in Technology</i>	
wheel	motor	jet propulsion
manpower	machine power	electronic controls
cottage industry	mechanization	automation
structures and functions	functions in structures	structures for functions
units	networks	constellations
explore	exploit	conserve
	<i>Developments in Science</i>	
certainties	confusion	probabilities
absolutes	relative absolutes	relatives
metaphor	toward models	functional models
linear	regular patterns	emerging patterns
closed system	open system	organic systems
static	dynamic [in flux]	dynamic [evolving]
	<b>Developments in Education</b>	
<u>Principles</u>		
active mind	reactive mind	transactive mind
unity [dualism]	unity [monism]	pluralism
autocratic	laissez-faire	democratic
<u>Practices</u>		
teacher dominated	permissive	inquiry centered
do things to	do things for	do things with
subject emphasis	method emphasis	discipline emphasis
product oriented	process oriented	performance oriented
extrinsic manipulation	random reinforcement	meaningful involvement
standards grouping	age grouping	readiness grouping
class teaching	group teaching	independent study
fixed stimulus	multiple stimuli	organized stimuli
limited access	random access	systematic access
limited resources	multiple resources	instructional systems
teaching aids	audiovisual techniques	instructional technology
<u>Outcomes</u>		
fixed response	varied response	response mastery
convergent thinking and rote memory	convergent thinking plus free expression	convergent and divergent thinking
competitive	cooperative	adventure
inner directed	other directed	self-actualizing

(Carter, 1979 : 14). These chips or microprocessors are mass-produced and are used in many electronic devices allowing them to be miniaturised. Computers in industry are now smaller, cheaper and more powerful, and the microcomputer has enabled schools and individuals to demystify computer technology. In the field of telecommunications computers generate and transform information as well as controlling its transmission; teletext and videodata services are pertinent examples (Hawkrige, 1983 : 11-13). From the foregoing it is inevitable that changes will occur, and have already occurred, in patterns of employment.

#### 2.2.1.2

##### EMPLOYMENT

Changes in employment prospects in the industrialised West have been well-documented by writers such as Hopson & Scally (1981 : 1-12), who have demonstrated that the technological revolution has resulted in increasing automation and hence in fewer jobs in those societies. They point to such socio-economic factors as computerised banking, typesetting and office administration, - or industrialised automation in general - as indicative of the trend towards fewer employment opportunities. Workers are likely to change jobs more often; work more in part-time employment; share jobs on a twenty-four hour basis; and have to be retrained at

least four times in their lives if they are going to retain their jobs, for full-time employment can no longer be taken for granted: 'People are going to have to live with the expectation that for some periods in their lives they may well not have a job' (ibid : 9). Job opportunities will further be eroded by the widespread use of robots in industry and may affect some 50% of United States factory workers in the next 20 years (Naisbitt, 1984 : 29-30).

From what has been mentioned it is clear that technological change - exemplified by the computer - and its consequences, fewer work opportunities, - exemplified by the robot - are crucial factors which should concern schools in the implementation of their educational objectives. Of even more relevance to the schools in this rapidly changing world is the increase in information or knowledge (see glossary). Education is no longer seen as the cultural transmission of a supposedly static body of knowledge to succeeding generations.

#### 2.2.1.3

##### KNOWLEDGE EXPLOSION

Knowledge, the 'critical ingredient' of our society, according to a futurologist, is increasing at a phenomenal rate (Naisbitt, 1984 : 15). With a world-wide book production of more than 1 000 titles per day (Toffler, 1970

: 37) and the input of scientific and technical literature, more than 6 000 articles per day (Naisbitt, 1984 : 24), the term 'knowledge explosion' is apposite. Toffler (1970 : 149) cites Hilliard in this regard: 'At the rate at which knowledge is growing, by the time the child born today graduates from college, the amount of knowledge in the world will be four times as great'. Whether the above citation is true or not, there is no denying the expansion of knowledge particularly in the fields of space technology and electronics. The changing patterns of employment previously referred to are evident in the trends noted in the United States by Naisbitt (1984 : 14), who highlights the shift from an industrialised society to an information society, where 60% of workers are now involved in information-related careers. Information, he suggests, is now the strategic resource (ibid : 15).

The key areas of change outlined - the technological advances, changing employment practices and knowledge expansion - have been selected for their particular relevance to, and influence on, the changing patterns of education, which will be discussed in what follows.

## 2.3

CHANGING PATTERNS OF EDUCATION

In the seventies world-wide educational trends became apparent (Carroll, 1981 : 23):

- (1) The school was no longer a transmitter of culture but an agent of change.

With knowledge increasing exponentially and information disseminated by means of the mass media the teacher was no longer the source of much recorded knowledge.

In a world of rapid change, increasing information and uncertainty regarding job opportunities, it is pertinent to ask what knowledge is most worthwhile for today's pupils. Holt (1970 : 172-73) argues:

Since we can't know what knowledge will be most needed in future, it is senseless to try to teach it in advance. Instead, we should try to turn out people who love learning so much and learn so well that they will be able to learn whatever needs to be learned.

This leads us to the second world-wide trend which was noted:

- (2) The emphasis was on learning not teaching : an understanding of principles : learning how to learn and the development of personal and social attitudes. (see Plato : 2.1.1)

In order to find the knowledge they seek teachers and pupils require skills in information retrieval, which would seem to imply that the asking of the right questions is more important than the answers:

Once you have learned how to ask questions - relevant and appropriate and substantial questions - you have learned how to learn and no one can keep you from learning whatever you want and need to know. (Postman & Weingartner, 1971 : 34)

The ability to learn on one's own [autonomous learning] was seen as the ultimate objective of education and the foundation of the third trend.

- (3) Learning was viewed as continuing throughout one's life  
(see Aristotle : 2.1.1)

Life-long education was not only considered intrinsically valuable but a practical necessity in an uncertain world.

- (4) As a consequence of parental concern the curriculum itself was reassessed to ensure that what was taught in the schools was relevant to the needs of the pupils.

Curriculum Relevance (Fothergill, 1973 : 43; see Comenius : 2.1.5) was the fourth trend that was discernible world-wide.

- (5) The fifth educational trend noted was the position of the school vis-a-vis the community.

The school was seen as part of the larger community with decision-making and policy determination no longer its sole prerogative (see 2.1.1). Increasing parental involvement in schools led to more decisions based on co-operative understandings and joint determination of policies (Watts, 1977 : 111).

- (6) The sixth world-wide educational trend that became evident in the seventies was the influence of the mass media.

The power of the mass media was recognised and attempts were made to use this in the formal system

The impact of film and television on the general public was so significant that research was conducted into the educational use of these media (Schramm, 1977 : 26, 27; see also 4.4.4.2), as their potential for instruction was perceived.

Concomitant with these world-wide educational trends was an attempt to equalise educational opportunity, previously stressed by the Rockefeller Report (1958), and to cope with increasing numbers, for education was seen as the door to

economic and social advancement as the following illustrates:

... a goal of democratization of education was emerging as part of the search for greater equality and social justice. Education alone could not overcome the unequal access to resources and income for individuals, but it could assist in breaking down social and psychological barriers to schooling imposed by families, neighbourhoods and societies. (Carroll, 1981 : 23-25)

### 2.3.1

#### CHANGING PATTERNS OF SCHOOLING

This search for equality and social justice in the United Kingdom (after the Second World War) led to criticism of the tripartite system of grammar, secondary modern and technical schools which mirrored the upper, middle and lower class 'divisions' of the society. The system was inherently elitist in structure and was perpetuated by the 'eleven plus' examination which directed the educational path the pupil was obliged to follow within the state system:

The 11+ examination was used in England to pick the top 20% or so of those leaving elementary school for admission to high schools (known as grammar schools) almost all the remainder going to the less exacting modern schools. (Vernon, 1979 : 7)

This selective examination, based on intelligence tests, tests of attainment in English and Arithmetic, school records and teachers' recommendations, was a competitive hurdle which critics claimed was harmful to pupils, subject

to extraneous features, such as peer group and home environment, and too accepting of I.Q. rating.

A brief historical outline of the concept of intelligence and the determination of I.Q. will serve to put the 'eleven plus' examination in context.

#### 2.3.1.1

#### INTELLIGENCE, INTELLIGENCE TESTS AND I.Q.

##### 2.3.1.1.1

#### INTELLIGENCE

The concept of intelligence has been a matter of considerable debate and various theories were put forward in an attempt to clarify this abstract concept; which most authorities agreed was the result of the interaction between heredity and environment in the individual, plus an indeterminant factor.

Hebb, in The organization of behaviour (1949) postulated two components of intelligence which he termed 'A' and 'B'. Intelligence 'A' was 'something which the child inherits from his ancestors through the genes and which determines the mental growth of which he is capable'.

Intelligence 'B' was 'the level of ability that a person actually shows in behaviour-cleverness, the efficiency and complexity of perception, learning, thinking and problem solving' (Vernon, 1979 : 10).

A further component, intelligence 'C' was suggested by Vernon (1969 : 9) to indicate the score achieved on an intelligence test, which determined the intelligence quotient (see 2.3.1.1.3).

Cattell theorised 'fluid' and 'crystallised' intelligence, the former being equated with 'A', the genetic potential or hereditary component, and the latter with 'B' '...the result of experience, learning and environmental factors (Butcher, 1970 : 29).

#### 2.3.1.1.2

#### INTELLIGENCE TESTS

Attempts to measure intelligence were initiated by Binet and Simon (1908) when they devised tests, based on teachers' scholastic judgements and observation, which were updated by Terman (1916), and when finally revised in 1937, became known as the STANFORD-BINET tests (Butcher, 1970 : 219-21). The aim was to achieve 'a more scientific estimate than had previously been possible ... of the level of intellectual

development reached by a particular child relative to the average of his age-group' (ibid : 220).

Widely differing tests were found to have positive intercorrelations which led Spearman to hypothesize his two-factor theory : a common factor, which he termed general intelligence or 'g' and a specific factor 's', a component unique to each ability:

The common feature of all such intercorrelated tests seems to be their requirement of some form of "reasoning" on the part of the subject - some active, but usually covert, transformation or manipulation of the input (the problem) in order to arrive at the output (the answer) (Vernon, 1969 : 10).

The British influential psychologist Cyril Burt, whose work is now suspect (Vernon, 1979 : 170-73), had assured the Hadow Committee in 1926 that 'it was possible by means of intelligence tests to make a fairly accurate assessment of a child's mental capacity by the age of twelve' (Pedley, 1967 : 37). Intelligence tests were therefore accepted as a reliable and valid measurement of academic ability.

## 2.3.1.1.3

I.Q.

The Intelligence Quotient (I.Q.) was determined by the formula

$$\frac{\text{MENTAL AGE}}{\text{CHRONOLOGICAL AGE}} \times \frac{100}{1}$$

and was regarded as a pre-determined level of intelligence which changed little throughout life.

Subsequently, the Spens Committee of 1938 recommended the tripartite school system to cater for children of differing levels of aptitude and ability (see 3.4.2) and the 11+ examination was initiated (Pedley, 1967 : 38). The inevitable result of this prescribed differentiation was streaming.

## 2.3.1.2

STREAMING

With the acceptance of a fixed I.Q. children were assessed on academic ability and divided into classes according to results. Hargreaves' (1967) research in Lumley Secondary Modern School revealed that teachers 'and pupils' values were similar in the top streams and lower stream pupils sensed negative teacher attitudes.

Peer group influences were powerful and led to a 'them' and 'us' attitude. A self-fulfilling prophecy occurred where those in lower streams, treated as not so bright, classified themselves as such and reacted accordingly. It was found by Marburger (1963 : 306) that teachers' expectations of lower-stream pupils were not as great as those in the upper streams:

The teacher who expects achievement, who has hope for the educability of his pupils indeed conveys this through every nuance and subtlety of his behaviour. The teacher who conveys hopelessness for the educability of his children usually does so without ever really verbalizing such an attitude - at least, in front of his pupils.

Research results led to criticism of streaming and the advocacy of mixed-ability classes. Unstreamed classes were introduced in some schools and in some subjects implying a greater flexibility of learning styles. Taylor claimed, for instance, that:

The range of varying ability and interest in an unstreamed class is such that not merely a difference of pace but a choice of alternative topics and activities within a subject becomes essential. (1971 : 236)

Whether classes are 'streamed' or 'unstreamed' individual differences are apparent, and to develop the educational potential of each pupil it is suggested that a variety of resources be provided to produce motivation for learning.

With the educational spotlight on individual differences there was considerable controversy regarding the relative influence of heredity and environment on the development of intelligence.

### 2.3.1.3

#### HEREDITY AND ENVIRONMENT

It was generally accepted that 'intelligence' was the combined product of the human factor of heredity, and of the environment, but it was the relative importance of each which fired the controversy initially and which flares up intermittently as research is published (Jensen, 1969 : 1-123).

Burt, Gesell & Terman were exponents of the view of a genetically pre-determined level of intelligence which changed insignificantly throughout a person's lifetime, but sociological research in the 1960s stressed the importance of the environment, particularly that of the home and neighbourhood (Mays, 1967 : 62-79).

In the United States Hunt was a strong advocate of compensatory educational programs to raise the I.Q. level of those pre-school children from deprived environments. Head Start programs were introduced in this regard, but tests administered on completion of the project revealed few

gains, and, where achieved, were not sustained over time (Vernon, 1979 : 11-12). Jensen, who had originally supported the environmentalist viewpoint that unstimulating home conditions produced lower I.Q.'s among ethnic minority groups, seemingly changed his opinion on publication of the results of the Head Start programs and subsequently emphasised the greater influence of genetic factors, implying that intelligence differences between black and white (in favour of the latter) were genetically determined (Jensen, 1969 : 1-123). The implications of his well-documented analysis fueled a bitter heredity-environment controversy throughout the United States (Vernon, 1979 : 13-14).

In the United Kingdom research by Jackson & Marsden (1969 : 20) confirmed the environmental influences in their case studies of working-class pupils attending grammar school when they suggested that the pupils were at a disadvantage for two reasons, firstly because 'middle class families had an educational inheritance with which to endow their children' (ibid : 56) and secondly because of the ethos of the school itself where 'Every custom, every turn of phrase, every movement of judgment, informs the working-class parent and the working-class child that the grammar schools do not "belong" to them' (ibid : 237).

Despite the factors previously mentioned social acceptance was attained and grammar school success was achieved, but not without loss. The study revealed that neighbourhood or family ties were strained and sometimes broken; and most significantly, having attained middle-class status there was a rejection of lower-class values and background (ibid : 210-14). Concern was also expressed in the report at the drop-out rate from the school system:

Even within the grammar school, working-class children are being pushed out of the sieve in large numbers. We have already mentioned in the Crowther Report's finding ... that 48% of the children with an I.Q. over 120 have left school by sixteen. The figure is 87% for those with an I.Q. between (108-120). And all these must be ranked as above-average pupils. The ones who leave are predominantly the working-class. (ibid : 231)

It is evident that the working-class pupils were at a disadvantage in the grammar school, their peers taunted them about their speech and made them feel unwanted, and the school's communication with their parents was poor and even obstructive (Jackson & Marsden, 1969 : 114, 135-36). To obviate such problems and provide for the needs of those pupils who were dropping out of the educational system, a new type of school was devised - the comprehensive.

In Illich's opinion it was not a different type of school which was required but 'deschooling', for equality of opportunity in education was 'a myth' - 'because school reserves instruction to those whose every step in learning

fits previously approved measures of social control' (1976 : 19).

#### 2.3.1.4

#### COMPREHENSIVE SCHOOLS

In order to provide undifferentiated education in the United Kingdom non-selective schools, known as comprehensives, came into being as a rejection of the tripartite system (see 2.3.1). These schools were intended to cater for all pupils from a given area and a wide range of subjects was to be offered. Such a policy necessitated economies of scale which resulted in 'Many comprehensive schools offer[ing] close on twenty subjects. For example one school of 1 300 offers seventeen subjects, including Russian, Spanish, Law, Accountancy and Technical Drawing' (Pedley, 1963 : 90). The comprehensive schools were intended to provide equal educational opportunity and a varied curriculum suited to the needs of their pupils. According to Boyson (1975 : 76) and Whiteside (1978 : 24) this has not happened:

We have not got comprehensive schools with equal ability intakes but neighbourhood schools reflecting the social class and intellectual level of their areas. (Boyson)

... education in Britain has remained predominantly an avenue for the stable transmission of status from one generation to another. (Whiteside)

In the United States, before 1925, the high school was elective in character and catered for the upper socio-economic classes and their preparation for universities, much like the grammar schools. Since that date a more comprehensive high school in the United States 'offers basic general courses for all students, a wide range of elective courses in special fields - academic, vocational and avocational - and a broad program of extra class activities, guidance and community-related experiences (Callahan & Clark, 1977 : 222).

Despite modifications in the school system to provide equality of education and a wider range of subject options there was still dissatisfaction with state education, clearly expressed in the alternative school movement.

#### 2.3.1.5

#### ALTERNATIVE SCHOOLS

Within society there has been a growing concern with the education offered by the state educational system and considerable criticism has been voiced by such writers as Postman & Weingartner (1971); Goodman (1971); Illich (1971); Reimer (1971); Holt (1969); and Rogers (1969). In an incisive paragraph Postman & Weingartner (1971 : 13) precis the criticism of schooling as follows:

If it (education) is irrelevant as Marshall McLuhan says; if it shields children from reality, as Norbert Wiener says; if it educates for obsolescence as John Gardner says; if it does not develop intelligence, as Jerome Bruner says; if it is based on fear, as John Holt says; if it avoids the promotion of significant learnings as Carl Rogers says; if it punishes creativity and independence, as Edgar Friedenberg says; if, in short, it is not doing what needs to be done, it can be changed; it must be changed.

Although emotive and provocative in style and content the paragraph underlines the diverse areas of criticism and the variety of critics who have challenged the education provided by the state. Innovative school practices, sometimes initiated by teachers, parents and students, have been introduced as possible alternatives in an attempt to create meaningful learning environments. Like the attempt in the United Kingdom to create an equality of education by the creation of comprehensive schools, the alternative schools concept 'is profoundly egalitarian, even while favouring the middle class, because it takes responsibility out of the hands of professors and bureaucrats and places it in the hands of the people functioning as people' (Morse, 1971 : 32).

There is no one type of alternative school and the following examples indicate the diversity of format:

(1) SCHOOLS WITHOUT WALLS: PARKWAY PROGRAM, PHILADELPHIA

Students attend classes at suitable city venues, for example art classes in the art museum. A newspaper office and a repair garage have been other venues used for related subjects. Students help select and evaluate teachers and curriculum.

(2) CULTURE-ORIENTED:

The students study their own cultural backgrounds which are as varied as the population; Chinese, German, Puerto-Rican, Spanish, Italian and meet for multicultural activities (Callahan & Clark, 1977 : 69).

(3) ENVIRONMENTAL:

A basic curriculum is taught but with particular emphasis on environmental programs such as coastal diversity and nature reserves (Carroll, 1981 : 22).

(4) PERFORMING ARTS:

'Although the curriculum in these schools may include traditional subject areas, the emphasis is placed on developing the skills and talents of the students in the fields of drama, speech, dance, or other non-academic areas' (Carroll, 1981 : 22).

However, notwithstanding their diversity the alternative schools have certain common characteristics. The organisation is democratic as distinct from authoritarian and there are no grades or grade levels. The students play a large part in determining their own curricula, much of which is community-oriented, and generally pursue their own interests. Those who seek such an alternative education have specific objectives:

They are seeking an unstructured educational environment in which curiosity and interest determine activities, there is free and open communication on both emotional and intellectual levels and a general climate of care and concern for the wants and needs of each other. (Wehrli, 1972 : 6)

The mushrooming of alternative schools was a clear indication of dissatisfaction within the traditional school system, as already mentioned, but changes were being introduced in the schools, albeit slowly, particularly with regard to the curriculum.

## 2.3.2

CHANGE IN THE CLASSROOM

## 2.3.2.1

THE CURRICULUM

Innovative changes in the curriculum were spurred on by the successful orbiting of the earth by the Russian satellite 'Sputnik' in 1957. The United States responded by funding projects in mathematics and science which ultimately led to curriculum change. In the field of mathematics:

The new programs emphasize a progression from concrete to symbol to abstract involving the use of experimental materials and physical models in the classroom, discovery approaches, and applications of mathematics to the real world (Unruh & Alexander, 1970 : 57-8).

and in science:

... the processes of science are emphasized. ...The new programs are laboratory-centred ... Serious attempts are made to develop skills of inquiry and investigation (ibid : 59).

In the United Kingdom there was a similar emphasis on the curriculum. The Nuffield Science and Mathematics Projects and the Schools Council Humanities Project are noteworthy examples. Science 5/13, a Schools Council program, was based on Piaget's stages of intellectual development, and sought a scientific approach to problems and developing an inquiring mind (Woodbury, 1980b : 16).

The curriculum projects and changes referred to have implied changes in teaching method and learning styles. A more practical approach to learning, with the stress on individualising education, was the outcome. Discovery and inquiry learning in the fields of physics, chemistry and biology were key concepts, with practical work an essential component to enable the student to deduce general principles as a result of his experiments.

Wittich & Schuller (1979 : 67) outline the methodology of discovery learning which they contend leads to intellectual growth and responsibility where 'the individual is permitted to plan, to inquire, to become involved, to engage in a self-directed search to discover and know, and, finally, to apply his new-found information in patterns which he can develop, usually, with the help and guidance of a skillful subject-oriented teacher'.

Following this intensive scientific period, which was reminiscent of the scientific interest of the 17th century and the philosophy of Spencer (see 2.1.10), concern was expressed at the neglect of other subjects and the possible effect on the learner (Callahan & Clark, 1977 : 259). A humanistic movement emerged with concern for the individual and mankind. Snelbecker (1974 : 482) clarifies this approach:

Humanistic psychologists emphasised the importance of trusting man individually to have the capacity and the initiative to grow, to 'become', and to fulfil himself in such a way as to contribute to society rather than to threaten societal standards.

The realisation of human potential was an important part of Rousseau's philosophy (see 2.1.8). In educational terms this meant the development of self-awareness for 'education should foster rather than stifle one's sensitivity to one's feelings and to the feelings of others' (ibid : 484).

Carl Rogers is an exponent of humanism and as such is more concerned with the affective domain than the cognitive in the learning process, and thereby supporting the alternative school movement in its 'care and concern for the wants and needs of each other' (Wehrli, 1972 : 6).

Rogers (1961 : 33-34) suggests that by being sincere, accepting and understanding, the teacher is creating a motivating environment in which the pupils would respond positively.

Experience at Countesthorpe College has supported this contention; where close teacher-pupil relationships and shared learning experiences have motivated pupils who were previously reluctant learners (Watts, 1977 : 42-46).

The understanding of one's own behaviour and the behaviour of others were the cornerstones of the humanitarian courses introduced into the schools, which included the Behavioural Science Education Project and the Human Behavior Curriculum Project (Woodbury, 1980b : 86-87).

#### 2.3.2.2

##### TEACHING METHODS

With curriculum change emerged new teaching styles. Programmed learning and team teaching were two methods adopted.

#### 2.3.2.2.1

##### PROGRAMMED LEARNING

As a result of the work of the behaviourist psychologist B.F. Skinner, on stimulus-response theory and operant conditioning, the programmed learning movement emerged. Learning was programmed in small steps, from the simple to the complex, to ensure assimilation by the student who achieved immediate feedback on his responses, and was guided to further steps in the program, or to correction of his errors by further exercises. The teaching machine was geared to positive reinforcement to motivate further success. Branching programs were formulated by Crowder (Kay, 1968 : 46) to cope with the pupils' responses where

each 'branch' and its subsequent steps were dependent on the answers given. The programs thus attempted to cope with individual differences, the pupils moving at their own pace - the process of rate tailoring. As Rowntree (1974 : 135) aptly comments:

It was programmed learning that persuaded many teachers (and students) that as far as humanly possible, the learning system should be adapted to the student rather than vice-versa.

The concept was not new, but a reaffirmation of Rousseau's educational philosophy:

Education, he argued, should be adapted to meet the child's needs, not arranged according to the criteria of the subject matter it is thought he should learn (Bowen & Hobson, 1974 : 124).

The implications of the above were the affirmation of the pupil as the key factor in the educative process and not the teacher, and the acceptance of individual differences in the learning process which was acknowledged by programmed learning itself.

The Programmed Learning movement made a significant impact but the machine itself was not as successful as the programmed books which were produced, based on the educational theory behind the concept. This may have been due to the following:-

- (1) The programmed books were linear in format, covering a set syllabus to be followed by each pupil.
- (2) The book was more familiar than the machine and hence more acceptable to the teacher.
- (3) The machines were likely to be more expensive requiring linear and branching programs to cope with a wide range of individual differences (Kay, 1968 : 108).

#### 2.3.2.2.1.1

#### INSTRUCTIONAL OBJECTIVES

One of the benefits arising from the approach to Programmed Learning was the impetus given to instructional objectives. These had to be explicit to ensure what was learnt was in fact achieved. Feedback and evaluation were considered essential components of the system to fuel motivation:

In programmed learning, where the necessity of rapid feedback first became apparent, the student gets immediate knowledge of results by checking his response (eg. a written phrase or calculation) against the programme (Rowntree, 1974 : 121).

The student was in control (see 1.2) of his own learning and achieved results which led to further motivation and success. These positive reinforcers were not negated by failure to answer a teacher's question, scorn by his peers or criticism of his ignorance.

## 2.3.2.2.2

TEAM TEACHING

This innovative teaching method is used to provide large group instruction by a team of teachers. It may involve a complete year group of four or more classes with their respective teachers. After discussion and planning each team member chooses to lecture on a part of the course which is his special interest. The lectures may be followed by small group seminars and individual study on a set theme. Taylor (1971 : 68-69) outlines the advantages:

- (a) Carefully prepared lectures as one's colleagues are critics.
- (b) Team members lecture in their areas of special interest.
- (c) Discussion and interaction with colleagues rather than classroom isolationism.

## 2.3.3

THE LEARNER

The changes in curriculum and teaching method are irrelevant without the key factor in the educative process, the individual learner. With the development of a pupil-centred approach to education (see Rousseau 2.1.8), and with practical involvement of the pupil in the learning process,

much research has been concerned with individual differences and in providing stimulating classroom learning environments to match specific needs, interests and abilities.

#### 2.3.3.1

##### INDIVIDUAL DIFFERENCES

#### 2.3.3.1.1

##### PHYSICAL AND MENTAL TRAITS

Longitudinal child studies have shown that there is a predictable pattern of physical and mental development from childhood to adulthood which is relatively little influenced by experience:

Although no two individuals are exactly alike, all normal children tend to follow a general sequence of growth characteristic of the species and of a cultural group. Every child has a unique pattern of growth but that pattern is a variant of a basic ground plan (Hurlock, 1956 : 18).

The rate of development for physical and mental traits are however different. Hurlock (ibid : 20-25) points out the slow rate of development of reasoning but the early, quick development of creative imagination. This implies that no two children are at identical stages of development and hence ready for the same learning experience at the same time, which validates the Montessori educational method of self-development according to the nature of the child (see 2.1.12).

## 2.3.3.1.2

ENVIRONMENTAL INFLUENCES

A further crucial factor in highlighting individual differences is the influence of the environment. Each child has his own unique 'environment', comprising his home, school and peer group and his totality of experience, which is not mirrored in that of any other child. Differences between individuals are more evident than their similarities when the variations of individual environments and experiences are taken into account (see 2.3.1.3).

A further effect of the home environment is in the development of language. Bernstein's (1961) work on the 'restricted' and 'elaborated' language codes of lower- and middle-class speakers reveals clear differences in speech patterns, which was noted elsewhere in the rejection of working-class pupils by their middle-class peers in the grammar school (see 2.3.1.3).

Differences have also been identified in thinking patterns of individuals, and the work of Hudson (1967 : 49-67), in the area of convergent and divergent thinking, is evidence of this.

## 2.3.3.1.3

OTHER FACTORS

Balson (n.d.) stresses three crucial areas relating to individual differences and learning: (1) learning styles; (2) learning tempo; (3) aptitude-treatment interactions. He points out the different ways by which pupils learn ... 'Some learn more easily through reading, others through listening, while others prefer doing things physically' (ibid : 2).

There is also variation in the speed of learning, for pupils learn at different rates and individuals may have different learning rates for different subjects. Finally, learning performance is influenced by the interaction of teaching method and pupil personality. By implication teachers should assess their pupils carefully to match pupil and learning style for significant educational outcomes.

## 2.3.3.2

LEARNING STYLES

From the viewpoint of the pupil there are two learning styles in evidence which may be considered as forming the opposite poles of a continuum

(a) Dependent learning and (b) Independent learning.

## 2.3.3.2.1

DEPENDENT LEARNING

This is the traditional school of teacher-initiated learnings by means of textbooks geared to syllabi, with the ultimate aim of passing examinations. In Freire's (1972 : 45) terminology the teacher-student relationship is 'narrative' in character where there is 'a narrating subject (the teacher) and patient, listening objects (the students). The contents, whether values or empirical dimensions of reality, tend in the process of being narrated to become lifeless and petrified'. This was the very same sterility of approach rejected by Dewey, for as Hobson & Scally point out, the learners become dependent on the teacher, the school and the 'system':

If at an early stage, the system says to each of us, in the way it operates, that responsibility for our progress, development, behaviour and welfare lies with somebody other than ourselves we are on the road to dependency (1981 : 49).

## 2.3.3.2.2

INDEPENDENT LEARNING

As a prelude to independent learning the pupil is required to accept more responsibility for his own education. Waterhouse (1983b : 15) defines the parameters of this freedom to learn when he comments that 'Independence, however, should not be equated with licence; the pupil who

is given the opportunity to work independently has been given responsibility, and that implies answerability and it makes assumptions about rationality and authenticity'.

Independent learning implies resources from which to learn and it is only when these are available in sufficient quantity and diversity that the pupil may become interested and hence motivated to learn. It is hoped that the motivation will be sustained beyond school and lead to continual self-education.

The pupil must be clear as to his objectives, 'he needs to learn how to formulate his own learning goals, to pursue them by efficient means, and to evaluate his own activity ... He needs, in short to learn how to learn' (Alexander & Hines, 1967 : 3).

Every pupil should master such lifeskills as computer literacy (see 4.4.4.3), effective communication and information retrieval if he is to cope with the changing environment, be in control of his own life and so attain true independence.

## 2.3.3.3

MOTIVATION

In order to motivate his pupils to learn the teacher should have knowledge of their interests, needs and abilities. Dale (1969 : 47) is of the opinion that:

A child [pupil] must want to learn if he is to learn effectively: he can develop his skills and extend his knowledge only when he has a desire to do so. The entire learning process, in fact, is related to this fundamental motivation. You cannot learn efficiently unless you develop a desire, a need for learning.

Rogers (1969 : 158) considers relevance a key factor in motivation for only when 'an enquiry is perceived as relevant by the learner' [will] 'significant learning ... take place'.

The desire to learn something which is of interest to the pupil is more effectively learnt when there is active involvement in the learning process. Rogers (ibid : 102) gives the example of a class drama production but it applies equally to a car maintenance program, biology practicals or cookery classes.

Where there is personal success in learning, this in itself is a strong motivating factor for further achievement and further success. There are certain factors which have been identified in research as relevant to motivation and these

are cited by Callahan & Clark (1977 : 37, 38) as 'Authority figure approval; peer approval; competition; self-concept; life-goals and rewards'.

It would seem that pupils are motivated by their parents, the attitudes of their peers and of their teachers, healthy competition, the achievement of success and the subsequent rewards (Morrison & MacIntyre, 1969 : 127-32). These motivational factors are of concern to the classroom teacher to enable him to promote significant learning experiences in his class of disparate individuals.

#### 2.3.4

#### IMPLICATIONS FOR THE TEACHER

Acceptance of learning [preferably self-motivated], and not teaching, as the ultimate goal of education, necessitates a change of teaching strategy. The teacher becomes a facilitator of learning. Beswick (1979 : 25) clarifies the changes required:

... the task for teachers and schools is to offer as wide a range of learning experiences and learning styles as can sensibly be managed, to match on the one hand the challenge of individual difference, and on the other hand the complexities of the modern world for which school is (at least in part) an attempt at preparation. If the learning is to be meaningful and valuable, it must imbue an acceptance by the learner of the tasks and goals concerned, his or her personal involvement in the learning strategy, and an increasing participation in meaningful decision. The eventual goal must be the development of the learner's capacity for individual self-chosen or autonomous learning, for the 'education permanente' required by the exigencies of a changing society'.

Beswick's crystallisation of the roles of teacher and pupil underlines the importance of the resource centre, whose objective of supporting resource-based learning implies the achievement of pupil autonomy. First-hand experience is the ultimate learning experience, but where this is not possible films, slide, tape and video provide another dimension to learning which may satisfy individual differences and provide stimulation and motivation because of their more active modes. Resource centres provide the facilitating environment in which the pupil may achieve the goal of autonomy in the context of ...'responsibility and rationality and authenticity' (see 2.1.14). The school milieu is only part of the pupil's life and Richardson (1974 : 3) emphasises the importance of the link between the working environment and the school environment where 'the horizontal transfer (of learning) can best be effected if the learning world of the school approximates closely to the learning world outside, and if the learning styles developed

by the pupils employ the tools of the contemporary communication process'. The implications for the teacher, arising from the above citation are to provide educative links between the two worlds by utilising learning methods which employ modern technology.

#### 2.4

#### THE RESOURCE CENTRE AND CHANGE

Change, as already noted (see 2.2.1), is a basic principle of our society which should be considered in relation to educational practice as it affects the resource centre. It is axiomatic that change is all-pervasive but what concerns educators is the pace of change and the implications for education now. When the education offered in schools appears to be unchanging to the recipients and the world outside school is changing rapidly and radically, schools themselves may seem to be out of touch with the reality of the daily lives of their pupils. The De Lange report commented that 'Structural tension usually gives rise to social change ...' (HSRC, 1981b : 61).

Toffler has warned that if the crevasse is not bridged by altering the education within the system alternatives may be sought outside the system (1970 : 250). The diversity of alternative, student-directed programs in the United States has already been referred to (see 2.3.1.5) and attests to this phenomenon.

Much is made of the move from an industrial to an information society (see 2.2.1.3). The principal occupational categories (1979) of clerk and professional are producers, processors and distributors of information (Powell, 1984 : 7). Our society requires people who can cope in this information age and the schools are not producing pupils capable of doing so (ibid : 8). It is only 'by learning how to process, evaluate and use information [that] young people may develop the resources to be reasonably secure in a world that never can be fully understood or controlled' (Baker, 1977 : 32).

Technological innovations, such as language laboratories, programmed learning and teaching machines, which were introduced into the schools, did not cause the expected radical change because of software shortages and unchanging teaching environments (Willis, 1984 : 76). Greater change came with the portable cassette recorder and more recently the video cassette recorder and camera. Teachers have noted the useful applications of these new forms of technology and are becoming involved. The key to change in education lies with the teachers for 'the will to change and the achievement of change depend upon the people at present doing the job' (Glover, 1983 : 290).

It is self-evident that, to be meaningful, change should come from within and not be imposed from without. Teachers

have to be convinced of the relevance of the new technology for their own curriculum needs and for improving the learning process (De Wet, 1985 : 58). The most recent and significant development, certainly for the processing and storage of information, has been the introduction of the microcomputer to schools. The microcomputer's versatility is its most outstanding feature for it is a word processor, 'a powerful aid to administration and record keeping', a calculator and a terminal (Willis, 1984 : 76). More rapid change would seem inevitable with such multi-faceted hardware, provided teachers are trained in its use and accept their role change to mediators of learning for the computer facilitates autonomy, the pupil being in control of his own learning.



CHAPTER 3THE HISTORICAL DEVELOPMENT OF RESOURCE CENTRES IN THE  
UNITED STATES, THE UNITED KINGDOM AND SOUTH AFRICA

## 3.1.

INTRODUCTION

The historical overview of school library development, as here presented, is designed to place resource centres in some perspective vis-à-vis the school library, in so far as their emergence as a consequence of technological and educational change may thus be clarified (see Carroll, 1981 : 1-48). The two countries which are in the forefront of resource centre development - and its corollary, the idea of resource-based learning - are the United States and the United Kingdom. The former is generally regarded as being more advanced in both respects than the latter, partly as a result of greater financial provision and partly because of an earlier adoption of technology and innovative educational practices. South African resource centre development, in its turn, is well behind that of the United States and is more akin to that of the United Kingdom, although the experiences in both countries are providing guidelines for resource centre practices in this country (van Wyk, 1979 : 3). The predominating influence of the United States and the United Kingdom is exemplified by a survey of the

literature which indicates the range of publications emerging from those two countries (Percival & Ellington, 1984 : 215-34; Beswick, 1977 : 243-55). Recognition of their leadership role has been implicitly acknowledged by South African educationists and researchers in their quoted sources (see HSRC, 1981a : 44-59); visits to the United States (Vermeulen, 1968; Overduin, 1981a) and the United Kingdom (Tindall, 1976); and their invitations to guest lecturers (Beswick, 1981 : 1).

Consequently, a brief description of the historical development of resource centres in both countries is of relevance for South Africa and is the justification for its inclusion in this research.

Australia is another country which is visited by South African educationists and to which reference is made with regard to resource centres (Overduin, 1981b : 22) but time constraints and limited source materials at the time when this thesis was begun have dictated the restriction to the countries previously mentioned. Nevertheless brief reference has been made to an Australian source where the views expressed were considered germane to the present study.

The South African literary sources which have been referred to are principally journal articles, commission and

departmental reports, conference papers and theses, including those of Burger (1975), Kruger (1977) and Job (1984) while others have been noted in the bibliography but the main emphasis of this thesis lies in the historical development of school libraries to resource centres, including a theoretical and philosophical approach to independent learning; the criteria postulated for the provision of resource centre services, and the attitudes of teachers and pupils to the resource centre itself.

### 3.2

#### UNITED STATES

In 1876 the American Library Association came into being at the instigation of Melvil Dewey, well-known as the originator of the Decimal Classification System. What is less commonly known is that Dewey also promoted school libraries. Among other acts he helped draft a bill which the Legislature passed in 1892 allowing monies to be allocated for approved book purchases on a matching-fund basis (Gillespie & Spirt, 1973 : 6). An important date for American school librarianship was 1900, for:

the first graduate of a library school in the United States to serve as a school librarian, was employed at the Erasmus High School in New York City (ibid).

Dewey was instrumental in laying the foundation for the development of school libraries, but it was not until after

the First World War that significant changes occurred. The introduction of the junior high school into the American educational system had led to a wider curriculum with exploratory courses and an emphasis on individual instruction with consideration of the pupils' needs (Good, 1956 : 441-42). It was a period of considerable educational innovation, involving the introduction of activity methods, projects, child-centred schools, and ability grouping (Butts & Cremin, 1953 : 589). The Dalton Plan, in which pupils 'contracted' to complete a unit of work in a specified time, came into being, as did the Winnetka Plan, which involved mainly group activities but with individual methods utilised in the academic subjects (Good, 1956 : 429).

To support these teaching programs a variety of resource materials was required and the obvious place for storage and distribution of these materials was the library. In 1920 a report was published of an investigation into secondary school libraries under the chairmanship of Charles C. Certain. This report laid down specific quantitative standards with regard to physical facilities, collection size and school librarians' qualifications. The most relevant paragraph, concerning the provision of non-print learning resources, seems prophetic in retrospect:

The library should serve as the centre and co-ordinating agency for all material used in the school for visual instruction, such as stereopticons, portable motion picture machines, stereopticon slides, moving picture films, pictures, maps, globes, bulletin board material, museum loans, etc. Such material should be regularly accessioned and catalogued, and its movements recorded, and directed from the library (Gillespie & Spirt, 1973 : 9).

Audio-visual instruction in the schools emerged as a strong trend from 1938, with the support of city school systems (Butts & Cremin, 1953 : 590). An important later development - related to the supportive use of educational materials in training and education - was the production of instructional training films for the armed forces during the Second World War:

The most important impetus for the development of increased levels of use of communication media in education was provided by the military and government training programmes (Hitchens, 1979 : 6).

This resulted in a greater awareness of the use of audio-visual materials in education. In the early 1950s, the Ford Foundation financed the development of educational broadcasting, the direct result of which has been the creation of an extensive television network throughout the United States, comprising approximately three hundred educational television stations (ibid : 10).

A second set of national standards was produced by the American Library Association in 1943 entitled School

libraries for today and tomorrow, advocating the use of audio-visual materials. This was reinforced in their 1949 publication by M. Rufsvold entitled Audio-visual school library service (Davies, 1974 : 69).

The introduction of audio-visual materials into the schools did not result, as a matter of course, in a unity of concept. A clear division between the work of the teacher-librarian and that of the audiovisualist continued to exist, although Florida State University's Library School instituted an audio-visual education course for librarians in 1947, which promoted the total integration of materials, rejecting such terminology as 'print' and 'non-print', 'book' or 'non-book' resources (Shores, 1973 : 12-16).

Audio-visual materials began to feature in the collections of school libraries in the 1950s; however, on the whole the decade was still one of relatively slow development. Published statistics for 1958-1959 indicate that almost half of all American schools had no libraries, while an even greater percentage had no qualified librarian (Gillespie & Spirt, 1973 : 12). Dramatic changes occurred with the publication of the National Defense Education Act of 1958, which had the objective of spurring curricular development in mathematics, science and foreign languages - subjects justifying expenditure on equipment, books and materials (ibid : 13). The school library became the 'instructional

materials center', thereby giving recognition to the unification of non-print resources and multi-media presentations, with traditional print materials such as monographs and periodicals:

The function of an instructional materials center is to locate, gather, provide and co-ordinate a school's materials for learning and the equipment required for use of these materials (McGinniss, 1972 : 15).

Teaching machines, language laboratories, television and computers were introduced as instructional aids (Hitchens, 1979 : 7). Further monies were made available in terms of the stipulations of the Elementary and Secondary Education Act of 1965 to spend specifically on school libraries, model projects and demonstration libraries.

Federal financial support was supplemented by private funding for particular projects. An outstanding example of this was the Knapp School Libraries Project which created eight 'model' multi-media school libraries throughout the United States over a five-year period. The project was widely publicised through reports and written materials and its visitors' program attracted thousands of educators (Gillespie & Spirt, 1973 : 13). The ripple effect of the project was its most important contribution, resulting in the improvement of existing facilities and the founding of new libraries.

The 1960s was a period of exceptional growth, following the injection of Federal funds. This is exemplified by the fact that in 1962 only 50% of all public schools in the United States had a centralised library, while the percentage had increased to 84 by 1974 (Carroll, 1981 : 7). Previously there had been concern about the quality of education, reports commenting on the 'mediocrity' that was extant where 'excellence' was seen to have been the goal.

The 1945 Harvard Report, commissioned by Dr James Conant, President of Harvard University, to determine educational objectives in a free society, concluded that each citizen had a right to a quality education reflective of his needs, interests and abilities, and that equal opportunity had to be granted to all to receive such an education. The Rockefeller Report of 1958 reiterated this viewpoint, and stressed educational excellence and optimal individual development. These goals were endorsed by the United States Commission on National Goals, viz:

... equality of opportunity for all citizens to experience an educational program of excellence uniquely reflective of the individual citizen's capabilities, needs and goals was the only goal worthy of a free society (Davies, 1974 : 4-5).

The right of the individual to equal opportunity, self-realisation and self-fulfilment were recurring themes. These reports were in some measure an incentive to Federal commitment educationally, and hence financially.

At the beginning of the decade revised national standards developed by the American Association of School Librarians emphasised multi-media instructional centres and set guidelines for state and local standards, highlighting the responsibilities of administrative personnel (Gillespie & Spirt, 1973 : 12). By the end of the decade financial provision had been generous, standards had been set, instructional materials centres were functioning and innovation and development was continuing.

The 1970 Report of the Commission on Instructional Technology, known also as the McMurrin Report, belied this progress when it commented that 'the use of most instructional media, print and non-print, was spasmodic, unplanned, irrelevant, and generally ineffective' (Davies, 1974 : 8).

The report decried the so-called 'lock-step' educational approach, the emphasis on teaching as distinct from learning, and the omnipotence of the textbook. Instructional materials were accentuated in the document and their use outlined explicitly (ibid : 8). The criticisms and suggestions delineated in these reports, in conjunction with the publication of standards for school libraries, instructional materials centres and finally media centres (see 'Reports and Standards'), resulted in growth and development as educational changes from teaching to learning were implemented. Individualised instruction and

independent study were key learning concepts in curricular change and innovation. The differing needs of individuals required a variety of learning materials in different formats to be readily available in the media (resource) centre which was viewed as the learning centre of the school.

### REPORTS AND STANDARDS

The following reports and standards are arranged in historical sequence:

1. Committee on Library Organization and Equipment of the National Education Association of the North Central Association of Colleges and Secondary Schools (1920) Standard Library Organization and Equipment for Secondary Schools of different sizes. Chicago: American Library Association (ie, the Certain Report).
2. Committee on Post-War Planning (1945) School Libraries for Today and Tomorrow : Functions and Standards. Chicago: American Library Association.
3. A Report of the Harvard Committee (1945) General Education in a Free Society. Cambridge, Massachusetts: Harvard University Press (ie. the Harvard Report).

4. The Pursuit of Excellence : Education and the Future of America (1958) America at Mid-Century Series, Special Studies Project V, Rockefeller Brothers Fund. Garden City, New York: Doubleday (ie. the Rockefeller Report).
5. American Association of School Librarians (1960) Standards for School Library Programs Chicago: American Library Association.
6. The Report of the President's Commission on National Goals (1960) Goals for Americans. The American Assembly, Columbia University, New York. Englewood Cliffs, New Jersey: Prentice-Hall.
7. American Association of School Librarians and the Department of Audiovisual Instruction of the National Education Association (1969) Standards for School Media Programs. Chicago: American Library Association.
8. Commission on Instructional Technology (1970) To Improve Learning : An Evaluation of Instructional Technology. New York: Commission on Instructional Technology (ie. the McMurrin Report).
9. American Association of School Librarians and the Association for Educational Communications and

Technology (1975) Media Programs : District and School: Chicago: American Library Association.

10. National Study of School Evaluation (1978) Evaluative Criteria for the Evaluation of Secondary Schools  
Washington, DC: National Study of School Evaluation.

### 3.3

#### UNITED KINGDOM

As early as 1928 the Board of Education, in a memorandum on school libraries in England, commented that a library in every secondary school was essential. The School Library Association was founded in 1937 to promote the use of the school library in the United Kingdom, and in 1943 the Norwood Report provided considerable comment on the aims, purposes and use of school libraries. However, it was not until the passing of the Education Act of 1944 that the principle of having a library in every British secondary school became accepted policy (Ray, 1982 : 1-3).

In Scotland, during the 1930s, the Scottish Film Council was established and during the Second World War the Scottish Central Film Library enlarged its film collection. With this existing support service the education authorities promoted the use of film in schools by supplying projectors and finance to hire films. An interesting development was

the founding of the Scottish Educational Film Association, a voluntary body of teachers who attempted to influence their colleagues to use films and other audio-visual media in their teaching (Tucker, 1979 : 19). By the 1950s, the high rate of film use in the classroom seemed to indicate their success in this regard.

In 1946 the National Committee for Audio-Visual Aids in Education was set up by the local education authorities to train teachers in the use of audio-visual materials. To permit these local authorities to receive a more practical service the Educational Foundation for Visual Aids was founded in 1948 and initially distributed films to schools. Seven regional centres were established to 'provide service and advice on audio-visual equipment' (Tucker, 1979 : 19). Local and regional support services were thus available to stimulate interest and motivate the use, and expansion of, the school library in the United Kingdom (ibid). Numerous other bodies, including the School Library Association, the Ministry of Education, the Central Advisory Council for Education and the Library Association produced reports calling for greater development of school libraries (Ray, 1982 : 3). Despite such recommendations little seems to have been done to improve the situation and Tucker (1979 : 19) contends that the impetus to the use of audio-visual materials came from the commercial production houses without whose contribution few resources would have been available.

The school library, up to this point, had provided books and audio-visual aids for the teacher. These aids, in various formats, such as transparencies, slides, cassettes, maps, charts and films were additional stimuli to catch the eye and ear of the pupil, thus assisting in the learning process. A transitional phase, in which there was a change of educational direction from teaching to learning, took place in the 1960s, and led to the resource centre concept which soon gained currency. The mainspring for the development of the resource centre was the emphasis on the curriculum, following the raising of the school-leaving age and the introduction of comprehensive schools. A re-appraisal of educational aims and objectives and teaching methods spurred curriculum change and interdisciplinary co-operation (Beswick, 1975 : 28; see also 2.1.5). Enquiry methods were being instituted, and independent learning encouraged, which required the use of a variety of resources by the pupil. The destreaming of classes had provided a challenge for teachers in coping with mixed-ability classes, thus necessitating a more resource-based learning situation (Evans, 1975 : 44). This had led to the proliferation of duplicated materials for teaching and learning, particularly in social studies appertaining to local conditions. Neighbourhood and community projects were inherent in the comprehensivisation policy and teacher initiatives were required to produce relevant resource materials. A

centralised reprographic service was regarded as a prerequisite for individual learning experiences and resource-based teaching (Thornbury, 1979 : 13).

In 1965 the Schools Council, which received funds from the central government and local education authorities, sponsored curriculum development with such projects as the Humanities Curriculum Project and the General Studies Project. These resource-based schemes resulted in learning packages being supplied to schools and retained by the relevant departments.

Two significant publications of the early 1970s were the Library Association's School library resource centres : recommended standards for policy and provision, which paralleled the statement of the United States standards, and the Schools Council Working Paper 43, School resource centres. The former provided basic guidelines for resource centre provision and development, while the latter document addressed itself to the needs of the teacher-librarian by offering guidance in production, storage, arrangement of resources, bibliographic control and retrieval. This had considerable influence in the development of school library resource centres in the United Kingdom (Thornbury, 1979 : 22).

During this period also the Nuffield Resources for Learning Project (1966-71) published its conclusions, which verified the benefits of resource-based learning and urged its widespread acceptance and development in secondary schools. It recommended a support unit to assist teachers in creating learning resources in a limited subject range. This unit, the Resources for Learning Development Unit, functioned between 1974-81, and succeeded in integrating resource materials and developing innovative classroom management techniques to achieve that integration (Waterhouse, 1983a : 89-95).

In 1975 the Council for Educational Technology came into being to promote the use of technology in the schools, with particular reference to the curriculum and resources. These developments were, however, curtailed by the introduction of stringent financial cuts which led to a rationalisation of school needs and a planning policy for the curriculum and the resource support to pursue it.

According to Williams (1980), the impetus to a centralised school library resource centre as the hub of learning was, to a degree, hamstrung by the politics of power within the schools, where strong departmental orientation resulted in mini-resource centres:

The acquisition, distribution and use of resources is likely to reflect the curriculum values of the key decision-makers in the schools, especially the heads of departments as the representatives of subject interests (ibid : 137).

The curriculum learning packages, previously mentioned, are an example and served only to increase departmental resources at the expense of a centralised resource centre.

Support services have been instrumental in expanding the use of audio-visual materials in schools. The Media Resources Centre in Surrey, established in 1946, provides an equipment service with on- or off-site repairs, a software resources library and a production service (Tucker, 1983 : 98; see also 4.10.8). The School Library Service, whether under the auspices of the public library, or operating independently, provides loan collections and central purchasing and processing (Ray, 1982 : 45). With fully-functioning and developing support services, motivation can be established and promoted in the schools, and, more importantly, maintained.

The goal of uniformity of provision, development, and acceptance of school library resource centres, however, has not yet materialised, despite the numerous standards, reports, recommendations and publications. This is exemplified by a Scottish Council for Educational Technology survey, quoted by Gibson (1981 : 64), which revealed that 124 secondary schools had some kind of resources

organisation, but only 13 of these could be regarded as true resource centres. The Department of Education and Science reported in 1979 that the provision of materials in over 50% of the schools surveyed was unsatisfactory.

The pattern of development in the United States and the United Kingdom has clear parallels, with the production of standards and critical reports acting as change initiators. In times of more generous financial provision by local, district, regional or national bodies, growth spurts occurred, particularly when allied to quasi-governmental programs. Curricular innovations and technological advancement have led to an integration of materials and machines in the educative process resulting in the emergence of the resource centre concept with its variety of formats, as opposed to the traditional concept of the school library, with its well-nigh exclusive emphasis on the format of printed material (Carroll, 1981 : 4).

### 3.4

#### SOUTH AFRICA

A principal motivating factor in school library expansion in South Africa was the grant-in-aid scheme which was initiated in the Cape Colony by Sir Thomas Muir in 1893. The Transvaal introduced the scheme around 1910, the Orange Free

State followed a few years later, and it was finally introduced in Natal in 1944 (Turner, 1952 : 134).

The provinces will be discussed in the historical sequence of the introduction of this significant concept to illustrate the similarities and differences in their development, and to provide a more comprehensive, yet brief, overview for the country as a whole.

#### 3.4.1

##### THE CAPE PROVINCE

The lowest ideal to be aimed at must be 'No school without a suitable library and teachers and inspectors are counselled to keep such an ideal steadily in view (cited by Turner, ibid).

These were the words of Sir Thomas Muir, Superintendent-General of Education from 1892-1915, and considered the father of school libraries in the Cape Province. To initiate this ideal he introduced a grant-in-aid scheme, on a pound-for-pound basis, to enable schools to purchase books for their libraries. Simultaneously, he issued a pamphlet on libraries and included a recommended book list. Considerable interest was aroused which resulted in new libraries being opened (Malan, 1942 : 20). He persuaded the Blackie Publishing House to provide sets of their Home and Colonial library at reduced rates. These were distributed free to schools, with the proviso that a locked cupboard be provided to store them (ibid).

During Muir's tenure of office the number of school library collections increased from 22 to 2 257 (Turner, 1952 : 134), but there is some uncertainty as to the quality of school libraries in the Cape at that time. Without doubt, however, a strong foundation had been laid for the development and expansion of school libraries in the Cape Province during the Muir period.

To an important extent this initial impetus was lost with the intervention of the Anglo-Boer War, the First and Second World Wars and the depression of the early thirties, when the grants-in-aid were suspended temporarily. Individual school libraries were developed at the instigation of enthusiastic principals, teachers and parents and the financial support of enlightened patrons (Ehlers, 1978 : 109-10). For example, J W Jagger left a considerable sum of money in trust, the interest of which was to be used for the purchase of English books for South African high school libraries (Turner, 1952 : 135).

In 1940 the total spent on school libraries was £6 969 of which £4 589 was contributed by the schools themselves, a clear statement of community support (Malan, 1942 : 47). Fifty-five thousand books were added to school libraries under the jurisdiction of the Cape Education Department in that year (ibid : 45). In April 1941 a survey of 1 800 schools revealed that there were some 650 900 books in the

1 400 schools which replied to the questionnaire, giving an average of five books per pupil (ibid). This figure must be treated with some caution, however, as Groenewald (1967 : 499) in her survey discovered that textbooks had been included, and many books in poor condition which would have to be removed from the shelves.

In Malan's survey few teachers were found with any training in library procedures and so the school library vacation courses for practising teachers, conducted under the auspices of the School of Librarianship at the University of Cape Town in 1941, and again in 1947, were timely developments which provided a stimulus to school library expansion.

After the Second World War certain schools initiated memorial libraries with monies collected from past and present pupils, and with assistance from the Cape Education Department. The Observatory Boys' High School Memorial Library was one of the finest of these. It was opened in March 1954 with a voluntary, fully qualified librarian, the headmaster's wife. The English books, acquired through the Jagger Bequest, had their counterpart in the Afrikaans books purchased from money provided by the Bailey Bequest for that specific purpose (De Graaf, 1954 : 91-92).

In January 1956 J G Kesting was appointed the first Organiser of School Libraries in the Cape Province, with responsibility for 2 400 schools, primary and secondary. With no staff to assist him, his task was a formidable one. A country-wide visit to some of the schools was undertaken complemented by a questionnaire survey. This was conducted to determine the adequacy of the school libraries in the Cape Province based on the following criteria: (1) a central library with suitable furnishings; (2) a well-selected book collection, relevant to the curriculum and with adequate reference sources; (3) the collection classified and catalogued and (4) the library in charge of a qualified teacher-librarian. There was a 75% response from the 300 high and secondary schools surveyed and it was revealed that 20 schools met the first three criteria; 56 schools had adequate accommodation and furnishings but unbalanced collections which were poorly organised and not suitable to meet curriculum needs; and 112 schools, (just under 50%), had no central library and a poor collection of books, often obsolete and unappealing, with the remaining 35 schools having practically no library facilities. The responsibility for the school library was generally shared among teachers and only one school had a fully qualified teacher-librarian and met all the criteria stipulated (Kesting, 1958 : 43).

Following a visit to the Transvaal to ascertain what had been achieved there, it was decided to use the Transvaal Education Department's Book Guide as a starting point for assistance in book selection for school libraries in the Cape Province. The Guide itself was a graded book list containing bibliographic information and brief annotations.

As discussed in what follows (see 3.4.2), the provincial library system had had a strong and debilitating influence on school librarianship in the Transvaal and a decision had to be made concerning the position of the school library vis-à-vis the Cape Provincial Library Service.

As Meiring (Superintendent-General of Education at the time) (1958 : 71) commented in his opening address to the South African Library Association:

Wat skoolbiblioteekdienste in Kaapland betref, het ons eintlik nog nie begin nie, tog staan ons tans aan die begin van groot ontwikkeling. Watter van die genoemde organisasiestrukture is nou vir Kaapland die beste om te volg?

He pointed out the value of the large book stock available from the provincial library service and the benefits of central cataloguing and processing to be offered by this service:

Die Provinsiale Biblioteekdiens behartig dus die administratiewe deel, totdat die materiaal by die skool afgelewer is, terwyl die skool dan die nodige professionele dienste verskaf en die administrasie van die skoolbiblioteek as sodanig waarneem (ibid).

Close links therefore were to be retained between the two services for a brief period in the early phase of its development. This may be viewed as a policy detrimental to the setting up of sound foundations for the province, if compared to the action taken by the Transvaal Education Library Service to sever such connections in order to nurture school librarianship, with its specialist educative function.

Other milestones in the growth of school libraries to resource centres in the Cape Province were the appointment of school library advisers and book selectors, in 1964, the latter being charged with the responsibility of approving books for use in school libraries, to be purchased from a departmental library grant. In 1970 teacher-librarians' posts, 26 in all, were created (Ehlers, 1978 : 112) to promote school librarianship.

The first indication of the use and promotion of audio-visual materials in the Cape Provincial schools followed the appointment of H M Daleboudt in 1957, as Counsellor for Audio-visual Education, a post completely divorced from the school library service. He was particularly interested in

the use of 16mm films in education and promoted them extensively. P J Grobler was appointed Adviser for Audio-visual Education in 1970 with the task of providing a resources service to ± 1 000 schools and colleges, as well as establishing a television studio which was inaugurated in 1971. The purpose of the studio was to assess the role which educational television could play in the Cape Education Department's schools (Moll, 1977 : 33). Three-day in-service courses on audio-visual education, covering the use of overhead and film projectors and the cassette recorder, were conducted in various centres throughout the province.

In 1974 two more advisers were appointed and experimental programs were produced for in-service training. Certain facilities, such as the duplicating of slides and cassettes, were available for the use of teachers. Attempts were made to achieve closer co-operation between the library and the audio-visual services with a view to unification but these were not successful.

An indication of future trends was given by the Head of the Education Library Service in the Cape Province, in an article written in 1978, when she intimated that libraries were likely to become resource centres by complementing their book stock with audio-visual materials (Ehlers, 1978 : 113).

The practical reality of Sir Thomas Muir's ideal was acknowledged in the same article when the writer commented that 'the importance of the school library ... in the development of the pupil to his full potential is now fully realised by our education authorities' (ibid : 118).

In September 1978 a significant step was taken to integrate the library and audio-visual services when the 'School Media Service Committee' was formed, with its prime objective to co-ordinate media activities and services, to schools and teachers' colleges (Job, 1984 : 72). In Circular 60 of 1980 of the Department of Education the transition of the school library to a 'media centre' was officially recognised:

The term media centre seems the most appropriate and has accordingly been adopted by the Department, to mean a centre which will house, organise and make available books and audio-visual media, and which will play an active part in promoting their use (ibid : 2).

The researcher, dually qualified, was appointed to Fish Hoek High School in 1980 to develop the media centre; the first such appointment in the Cape Province to a school already possessing a qualified teacher-librarian.

Despite the work of the 'School Media Service Committee' in paving the way for closer co-operation between the two independent services, integration has not taken place. 'The Education Library Service' and the 'Audio-visual Service'

remain two separate divisions of the CED, each with its own identify, staff, accommodation and functions (Job, 1984 : 79).

### 3.4.2

#### THE TRANSVAAL

In 1906, Sir John Adamson, the then Director of Education, emphasised the importance of reading for pupils and particularly the development of their ability to read with discernment. At this time a book grant on the pound-for-pound principle was in existence, and from about 1910 an allocation of one shilling per head was introduced to encourage the establishment, or expansion of, book collections in the schools (Groenewald, 1967 : 494-5). The early development of school libraries in the Transvaal owed much to the Victoria League which provided free books for school collections. These donations were highly praised in Inspectors' reports of the period 1906-1911. Not all was praise, however, for there was criticism of the lack of interest of some teachers and principals in promoting the reading of books and in establishing a school library (ibid : 495-7).

In 1918 the Department of Education transferred the schools' bookstock to the Germiston Carnegie Library which introduced a circulating library scheme to schools from this

centralised collection. A similar scheme was adopted by the Johannesburg Public Library in 1934, for schools in the municipal area, and in 1939 a short course in library work, for teachers and students was held under its auspices. The course of 23 lectures was offered to final-year students at the Johannesburg Teachers' Training College but the Public Librarian, R F Kennedy (1941 : 29-31), noted with some concern that there were no qualified librarians at any of the four teachers' training colleges in the Transvaal:

Surely before embarking on any scheme of schools' librarians it would be expected that the libraries at the colleges where the teachers are trained should be properly organised and in charge of a highly efficient librarian.

It was not until 1946 that qualified librarians were appointed to the colleges (Groenewald, 1967 : 499). The Nicol Commission of 1939 praised the co-operation between the public libraries and the schools, but sounded a cautionary note:

The Commission does not consider that such co-operation with a central library should imply the abolition of the school library (ibid : 497).

Such a development paralleled the public and school library co-operative schemes as practised in the United States in the early 1900s (Gillespie & Spirt, 1973 : 7).

The Commission, however, did recommend the extension of this co-operative principle, and with the establishment of the

Transvaal Provincial Library Service the intrusion into the education field continued, the Department of Education taking no stand on the issue. There were inherent dangers in the Department's seeming abdication of its responsibilities to public libraries, in that recreational needs might be met but perhaps not the educational needs of the pupil. As Groenewald (1967 : 496) comments, the result was 'the arrested development in our school libraries and for almost fatal arrears in their educational usefulness'.

In 1937 a key report was published in relation to libraries by the Interdepartmental Committee on the Libraries of the Union of South Africa, which recommended the appointment of school library organisers, proposing that:

The school library and its use be developed along modern lines, and that it occupy a particular place in the syllabus of every school in the Union (van Wyk, 1979 : 3).

The Director of Education in the Transvaal at the time, H Kreft, created the post of Supervisor of School and College Libraries in 1947 and appointed Mrs E C De Wet, (later Groenewald), in a permanent capacity in January 1948. In her first report of 1948-1949 the Supervisor, who was dually qualified, made incisive comments:

The attempts being made to render the school library an effective instrument in education, will remain of no avail as long as a public library service such as the Carnegie or Provincial scheme, is being employed from outside in our schools, as such a service is not inspired with the ideals of education and also does not possess the necessary specialized knowledge of teaching (Groenewald, 1967 : 500).

In 1951 the Transvaal Education Department's Library Service was inaugurated with Mrs E C De Wet as Organiser, with responsibility for the two sections, viz: the School and College Library Organisation and the Department Library. Over the next few years certain innovations were introduced which influenced library development in the other provinces. These were: the Book guide, published twice a year; teachers' vacation courses; and the appointment of school library advisers.

In 1958 the Transvaal School Library Association was founded for the promotion of school librarianship and the interchange of views of teacher-librarians and other interested parties in the field of education (ibid : 518).

A major step forward in school librarianship was the granting of full-time teacher-librarians' posts in 34 schools, on an experimental basis in 1963 (ibid : 503-7). The post of adviser for audio-visual education was transferred to the Education Library Service in 1960 and a professional section for audio-visual education was approved

in 1965. It was acknowledged that materials other than books had legitimate rights:

It is the function of the school library to turn knowledge to the best advantage, no matter in what form it presents itself... Illustrations, maps, films, film-strips, slides, tape and gramophone recordings, etc., and all useful media of knowledge which should be utilised and exploited ... (ibid : 3).

Early exponents of audio-visual education, in their advocacy of film as a teaching medium, were Swemmer and Coblans. The former, a member of the British Film Institute, and a school principal had designed a sophisticated auditorium, set-up for showing his stock of 100 films, playing music, and linked to the public address system:

The whole link-up is perfected in that a house telephone system operates in places as far apart as pay-box, stage, dressing rooms, offices and all classrooms (Swemmer, 1943 : 109).

Coblans (1946 : 61) was concerned with integrating film and education, advocating 'a systematic educational approach in the use of films'. Such innovative practices sprang from individual initiators and were the beginnings of audio-visual education in South Africa.

Recognition of the value of such resources in education was a long time coming. In 1969 an article appeared in South African Libraries entitled 'Topic-orientated learning and the school library' by E R Foster, which emphasised the important role of the school library in project-oriented

education, and in autonomous learning; regrettably there was no reference to the use of audio-visual resources in such independent learning modes.

Some 11 years after its founding the Transvaal School Library Association took a significant step by introducing an official journal in January 1969 entitled, Skoolbiblioteek/School Library.

It was in 1971 that the recently appointed Head of the Transvaal Education Library Services, P G J Overduin, at a school librarianship orientation course, indicated that following new perspectives in education, with an emphasis on self-discovery and independent learning, the school library was moving towards a centre for resources of all kinds and the 'bookstock should be supplemented with an extensive collection of audio-visual material' (Overduin, 1971 : Ch 2; 9).

Considerable progress had been made in establishing school librarianship and most of the high schools had full-time-teacher-librarians (van Wyk, 1971 : Ch 14; 5), but it was made clear that this did not mean a teacher working full time in the library:

... the teacher-librarian is in the first place a teacher, and very few of the people filling these posts at present have professional library qualifications (ibid: Ch 21; 2).

Under these circumstances the emergence of multi-media resource centres was inevitably delayed.

In 1973 a system of differentiated education, adopted as South African government policy, was introduced in the Transvaal after an initial period of experimentation. In this system the education of the pupil was divided into four phases to cater for individual differences. A L Kotzee, the then Director of Education, emphasised the importance of the school library in providing books and audio-visual materials for teacher-directed assignments, which it was hoped would lead to pupil-initiated projects where individual differences would be catered for in subject and content (Kotzee, 1973 : 120-21).

The emphasis in differentiated education falls on the pupil as an individual, and requires an orientation accordingly of the curriculum, of the method of teaching and of the teaching personnel (ibid : 122).

The integration of books and audio-visual materials in the school library was given official recognition in 1978 when it was acknowledged by the Transvaal Education Department that such a development required urgent attention:

The name 'media centre' was adopted and the separated departmental Audio-visual Service was incorporated in the Transvaal Education Library Service to form the Transvaal Education Library and Audio-visual Ancillary Service (van Wyk, 1979 : 3).

The official journal of the Transvaal School Library Association, 'Skoolbiblioteek/School Library' was renamed 'Skoolmediasentrum/School Media Centre' from June 1980 and the Association itself became known as the Transvaal School Media Association.

The era of school resource centres was at hand.

### 3.4.3

#### ORANGE FREE STATE

In 1946 a Provincial Education Commission was appointed with a special brief to conduct an investigation into school libraries. Its final report was published in 1951 and the principal recommendations were:

- (a) the appointment of a School Library Organiser;
- (b) the establishment of a centralised library service;
- (c) the provision of library accommodation in schools; and
- (d) the introduction of courses in librarianship at teachers' training colleges.

In 1962 it was agreed with the Education Department that the Orange Free State Library Service 'would undertake the reorganisation of the Free State school libraries' (Nordier, 1980 : 131).

The same year an important development occurred:

The viewpoint that the school library and audio-visual education should be integrated into one unit in which all teaching aids could be placed at the disposal of teachers and pupils was established in the Orange Free State in 1962 when a fully-fledged Department of Audio-visual Education and School Librarianship was established at the Bloemfontein Teachers' Training College (ibid : 132).

In order to assess library services for children a Committee of Enquiry into Library Services for the Young was appointed in 1965. Its report included the following recommendations:

- (a) there should be centralised selection, purchasing and cataloguing as was done by the Public Libraries;
- (b) this service should be provided by the provincial library service and implemented over a five-year period beginning in 1967; and
- (c) audio-visual materials should be available in the school library.

The program was adopted and completed in 1970 and in the same year the first two teacher-librarians were appointed. In 1975 a Subject Adviser for School Libraries and Audio-Visual education was appointed, providing '... the first real opportunity to apply the school library and audio-visual education as a unit in practical education' (Nordier, 1980 : 132).

In the planning of school libraries in the Orange Free State an audio-visual classroom was included with film and overhead projectors and built-in screens. The province was unique in this provision and in its early acceptance of audio-visual education. Further requirements were being contemplated in this regard:

As a result of the increasingly important role that audio-visual aids are playing in education, the possibility of supplying certain audio-visual material to school libraries on the same basis as books is currently being investigated (ibid).

The Provincial Library Service is the cornerstone of school library provision and expansion in the Orange Free State, the situation thus differing from that of the other provinces where the respective departments of education have the responsibility for resource centres in the schools.

#### 3.4.4

#### NATAL

School libraries began to be established in 1888 and were an early feature of the oldest high schools in Natal. It was the initiative taken by individual principals which determined the kind of library facility available in each school. Parents were motivated to collect funds to purchase books or to make donations to increase the bookstock (Wilson, 1977 : 45).

In 1929 the Carnegie Corporation of New York donated R500 to start a demonstration library at Girls' High School, Pietermaritzburg, on condition that the provincial administration would supply the furnishings. This grant enabled 2 000 books to be purchased for the library and it was opened in 1932 (Hurley, 1953 : 26).

Despite Inspectors' critical comments on the dearth of school library provision there was little departmental response. In 1937 the Durban Municipal Library launched a scheme for circulating library books to schools in the area and this continued until 1953.

In 1944 the Natal Provincial Administration granted financial assistance on a pound-for-pound basis, for book purchases, and a special annual library grant, based on pupil numbers, to a maximum of twenty pounds, was instituted. From this time a centralised school library became educational policy in Natal.

After the Second World War, with a provincial contribution of up to two thousand pounds, on a pound-for-pound basis, several schools built memorial libraries. Durban Boys' High School Memorial Library opened its doors in November 1949, with a full-time librarian. In October 1950 the Ladysmith High School Memorial Library was inaugurated, complete with a projection room. A year later the Lucy

Meakin Memorial Library at the Dundee High School was opened, and finally the Memorial Library at Maritzburg College (ibid : 27).

The post of full-time Organiser of School Libraries was created in 1950 and soon the need for full-time teacher-librarians and better physical amenities was reported. By 1956 three had been appointed and had classified and catalogued their bookstocks.

In-service courses were conducted and an awareness of resources highlighted:

In the audio-visual field everything possible was being done to bring home to teachers the advantages of using this equipment in teaching situations (Wilson, 1977 : 45).

In 1970 the Natal Provincial Administration accepted responsibility for centralised school libraries, with their resources integrated with the curriculum and equipped with audio-visual apparatus, an adequate bookstock, and managed by full-time teacher-librarians. A visit overseas by the then Director of Education and the Chief Education Planner made them aware of the technological revolution and the emphasis on individual learning. This led to the promotion of the resource centre concept in Natal schools in 1971 with the school library as base. It is now official policy that a secondary school resource centre should be allocated an

area of 280m<sup>2</sup>, be carpeted and contain suitable furniture and bookshelves, have an adequate workroom, study carrels and plug points for audio-visual apparatus (ibid : 47-48).

### 3.4.5

#### SUMMARY

In summarising the change from school libraries to resource centres in the four provinces of South Africa it is important to stress that it is the situation which pertains to white schools within the Departments of Education which is being commented upon. The work being done in special schools, falling under the Department of National Education, and the development of school libraries in Coloured, Indian and Black education is outside the scope of this thesis owing to the parameters of time and cost.

The development in the four provinces has been uneven, with the instigation of outside agencies and the reluctant participation of the education departments being prominent features in the early stages. The introduction of school library organisers for the provinces was a motivating factor for increased provision as was each department's acceptance of its responsibilities. These responsibilities were somewhat delayed by the provincial library services'

assistance to schools which, although beneficial to a degree, hamstrung initiative within the institutions themselves.

The change from libraries to resource centres subsumes the integration of audio-visual materials and books. This has occurred slowly. In the Orange Free State the creation of the Department of Audio-Visual Education and School Librarianship in 1962, at the Bloemfontein Training College, was a pointer to progress but only in 1975 was a Subject Adviser for School Libraries and Audio-Visual Education appointed to schools. Appointments, however, do not create resource materials. Nordier seemed to acknowledge this gap in provision when in his 1980 article only the possibility that audio-visual materials would be acquired, processed and sent to schools, was mooted (see 3.4.3).

Departmental designations confer official sanction but resource materials have then to be selected, evaluated, acquired and processed by the teacher-librarian if no centralised processing is available. The researcher, as previously indicated, (see 1.1) was given the responsibility of developing the school library into a 'media centre', and required three years to build up a relatively adequate stock, in terms of quantity, but the quality, in relation to content and subject-relatedness, may have left much to be desired. The previous separation of audio-visual and

school library services in the Transvaal, and the existing separation of these services in the Cape Province, may have resulted from different aims and objectives; and consequently delayed integration and unification (Job, 1984 : 114) within the relevant departments and may have adversely affected the schools under their control.

After an extensive five-week visit throughout South Africa in 1980 Beswick (1981 : 102) had the following comments to make in relation to provincial developments: ✓✓

... though they all accepted in principle the inclusion of audio-visual material, neither Cape Province nor the Orange Free State had yet begun implementation of their inclusion. Natal encouraged audio-visual provision and termed the result a "library resource centre", while the Transvaal had recently decided on "media centre" and as the largest and most thorough-going of the four provinces was providing a substantial standard package of audio-visual equipment for each school.

### 3.5

#### AN OVERVIEW

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It is evident from what has been described concerning the emergence of resource centres in the United States and the United Kingdom that certain factors, apart from the educational ones outlined, were responsible for their rapid development. These factors may be summarised as; the formulation of standards (see 3.2); financial support and seminal publications (see 3.3) and intervention by private

or quasi-governmental organisations to initiate research in the field and implement curricular programs (see 3.3) and demonstration projects (see 3.2). In South Africa there has been no formulation of standards; little financial support in comparison to that provided in the United States and the United Kingdom; no seminal publications on resource centres per se, and no curricular programs or projects supported by private or semi-government organisations. Resource centres in South Africa are, therefore, not surprisingly, in their infancy.



CHAPTER 4CRITERIA FOR THE PROVISION OF RESOURCE CENTRE SERVICES

## 4.1

RESOURCE CENTRE

## 4.1.1

PLANNING

In planning the resource centre due consideration should be given to such matters as the services it is intended to provide; the type, range and quantity of the materials to be stored; the collection policy to be pursued; the present and future needs of the users; the educational philosophy of the school and planned future innovations, whether in teaching strategies, curricular changes or structural extensions. It is advisable that the planning committee include parents, teachers and pupils to ensure support and the maximum utilisation of the resources, for as Lacey (1972 : 97) points out 'unless they [ie. parents, teachers, pupils] feel a sense of ownership ... the innovation is unlikely to become stabilized'.

In every school the resource centre will be unique to that institution as it will have evolved from: the spaces allocated to it; the enthusiasm of the staff who run it; the

interest of the pupils and teachers who use it; the finance granted for its development and consequently the variety and depth of resources it has managed to acquire. Each will develop according to the aims and objectives of the school and in particular the attitude of the principal (Thornbury, 1979 : 79).

School librarianship in South Africa has been considerably influenced by Anglo-American traditions, particularly as the United Kingdom and the United States were pioneers in the field of school resource centre development (see 3.1). Consequently, the standards which have been formulated by the American Library Association (A L A, 1975) and the Library Association (L A, 1977) in the United Kingdom will be used as a basis for the criteria adopted in this research.

Comparison of the standards themselves indicate the greater provision of personnel, equipment and resources that is envisaged for schools in the United States and, by assumption, that which they already have (Vermeulen, 1968 : 121). Consequently, the American standards, based on a school of 1 000 students, are more generous in their provision than the United Kingdom standards and even more so in relation to South Africa and should, therefore, be assessed appropriately when quantitative and qualitative references are given. This applies equally to the United

Kingdom standards vis-à-vis the current situation in South Africa with regard to resource centre development. The standards are not mandatory but are guidelines and recommendations for development to which schools should aspire. They are updated regularly in line with educational and technological advancement.

In describing the necessary provision it will be assumed that a central organisation of resources within the school has been adopted with the classification and cataloguing of all available materials for their most efficient use.

#### 4.1.2

#### FUNCTIONS

The functions of the resource centre and its staff are described comprehensively in the Library Association guidelines and are worthy of full citation, viz

- [1] To assist in providing a comprehensive source of learning materials in different formats for use by pupils individually and in small groups; to satisfy curricular, cultural and supplementary requirements, and offer opportunity for loan for use at home; and to provide a store of material and equipment for use by pupils and teachers in the classroom.
- [2] To organise all relevant learning and teaching material within the school, providing a catalogue which should be readily available in the resource centre.
- [3] To act as liaison with outside agencies and sources of information and encourage their use by pupils and staff.

- [4] To acquire and disseminate comprehensive information to all staff on materials to meet professional needs and, in co-operation with the school staff, to be actively involved in curricular development within the school as well as maintaining liaison with appropriate outside bodies in this respect.
- [5] To make its team available for the staff to consult on the selection of appropriate material to achieve their learning objectives.
- [6] To provide opportunities for staff and pupils to learn how to use the relevant educational material, and training in the exploitation of the facilities of a school library resource centre.
- [7] To provide facilities, when appropriate, for the production of material within the school by staff and pupils.
- [8] To provide facilities for the audio-visual materials, and to act as agency for the organisation of the maintenance of the relevant technical equipment for the school.  
(L A, 1977 : 10)

#### 4.2

#### ACCOMMODATION

Four aspects of resource centre activities will be considered in relation to the allocation of space:

- (1) user activities
- (2) material organisation
- (3) material production
- (4) equipment repair and maintenance.

## 4.2.1

USER ACTIVITIES

Pupils and teachers will require areas in which to read, to listen and to view. This may be done individually, in groups or in classes and accommodation should be provided accordingly. In the main resource centre area sufficient tables and chairs are required for one-tenth of the school population, according to the United Kingdom standards (L A, 1977 : 27) and one-fifth according to the American standards (A L A, 1975 : 96). A small area of comfortable, easy chairs is seen as a requirement (L A, 1977 : 31). Individual study carrels, with viewing and listening capability are suggested with a minimum of 9 sq. ft (3m<sup>2</sup>) of floor space per carrel. Listening stations or areas equipped with multiple power points should be provided and headphones used. One-third of the seating capacity is recommended for individual listening and viewing (A L A, 1975 : 96). All electrical 'hardware' items emit noise and so their use should be separated from study areas. The viewing of transparencies, slides, films and videos may require additional accommodation near the main resource centre area.

## 4.2.1.1

AUDIO-VISUAL ROOM

To accommodate class viewing of films and videos it is suggested that an audio-visual room be provided, covering an area of 750 sq. ft. ( $\pm 70\text{m}^2$ ) (Gillespie & Spirt 1973 : 114) or 900 - 1 200 sq. ft. ( $83.7\text{m}^2$ ) according to the American standards (A L A, 1975 : 98). Permanent fixtures in this room should be a film projector and screen, a television set or monitor and a video cassette recorder (see 3.4.3; 7.2.1.3.4). If a classroom is used limited sound-proofing is advisable and the room should have curtains, or blinds and be lockable and burglar-alarmed.

The main advantage of such a room is that the equipment is set up for immediate use by teacher or pupil, and the main disadvantage is that only one item of equipment can be used. The adoption of such a facility will, therefore, be related to the hardware available and the accommodation granted to the resource centre.

## 4.2.1.2

LECTURE ROOM

Where team teaching is one of the teaching strategies employed, an area will be required for large group instruction (ie. up to a maximum of about 100 pupils). This

may include viewing films or videos and good sound equipment will be necessary with a retractable screen, permanent or portable. The permanency of the equipment should be determined by the demand and considerations of security. Some schools may use their halls for such purposes for maximum utilisation of space, and transport equipment as required. No standards are given but provision is made for three conference areas of 150 sq. ft. each ( $\pm 14m^2$ ) in the American standards (A L A, 1975 : 98).

#### 4.2.1.3

#### COMPUTER ROOM

In an investigation carried out in Scotland in 1972-1973 it was found that at the time 20 000 pupils had been introduced to the computer by means of two courses, one on computer appreciation and the other on computer programming (Beveridge, 1978 : 11). Whether as part of the instructional program of the school, or as an extra-mural activity, a computer area is required. If networking is envisaged for 10-20 users, an area the equivalent of two classrooms is recommended. A smaller facility for up to five users would be valuable for viewing, and formulating, individual programs. A computerised learning laboratory is mentioned in the American standards (A L A, 1975 : 102). By 1975 half the secondary schools in the United States were

using computers for administration and/or instruction (Craig, 1979 : 30).

The user activity areas outlined are not the only ones required but these are facilities which have overlapping functions and these will be described under the relevant criteria. It is important to stress that a resource centre should develop according to need and that only where there is justifiable demand should resources be acquired to meet it (Evans, 1975 : 45).

#### 4.2.2

##### MATERIALS ORGANISATION

#### 4.2.2.1

##### RESOURCE CENTRE OFFICE

In order to oversee the activities in the centre and to accession, classify and catalogue materials an office is required for the staff. The office should be furnished with shelving, cupboards, working tops, a desk, chair and typewriter and have suitably-placed power points (Gillespie & Spirt, 1973 : 117). A sink with running water is an additional requirement with notice board and internal and external telephone links (L A, 1977 : 31). Glass partitioning is necessary to provide an uninterrupted view of the centre for the purpose of control.

## 4.2.2.2

ISSUE COUNTER

The issue and discharge of resource materials requires a desk with issue trays, drawers, shelves and a work counter to enable two staff to be working simultaneously (L A, 1977 : 30). A standard book trolley is necessary to receive the discharged items (ibid : 31).

A computerised issue system has become a possibility with the use of microcomputers in schools but is likely to come about only when the resource centre has sufficient funds to purchase its own computer hardware, and when there is a software package available which can be tailored to a school's individual requirements. The considerable administrative demands on computer hardware necessitate the provision of such equipment on a separate basis for school administration and for the resource centre.

## 4.2.2.3

CATALOGUES AND INDEXES

The card catalogue cabinets, the number dependent on the quantity of stock on hand, should be housed near the entrance and issue desk, with indexes and book catalogues conveniently to hand (L A, 1975 : 30). A more viable use of the computer in the resource centre would be in providing a

computerised catalogue to assist information retrieval (see 7.2.1.7), and to group resources thematically. This would be a considerable advantage for staff and users and initially attract pupils to the resource centre to use the computer per se. If a computer club exists within the school it would be invaluable to ask the pupils to assist in computerising the catalogue as a learning exercise with a practical objective.

Complementary to the use of computer hardware in library procedures is a computer 'expert' within the school who is capable of de-bugging the system and supervising its implementation and continuation.

#### 4.2.2.4

#### DISPLAY

A resource centre requires considerable display area in the form of pinboards and display cases, which should be lockable for special collections. These facilities should have good light, be flexible and attractive (L A, 1977 : 31). A further recommendation by the Library Association is that one-sixth of the total shelving area be made available for display purposes.

To ensure that the resource centre is the focal point of the school, pupils' art work and hobbies could be displayed

there throughout the year. Models created in practical subjects are a valuable source of display material, to the advantage of the resource centre and the pupils who made them. The educational relevance of displays can be vouched for in this research by the work presented in School A (see 7.2.1.2.3).

#### 4.2.2.5

##### STORAGE : SOFTWARE

The shelving area for books should be commensurate with the needs of the ultimate school population, be adjustable and interchangeable, and should cater for all sizes of books (L A, 1975 : 29).

Detailed heights and widths for wall stacks, island stacks and horizontal and sloping shelving are given in the United Kingdom standards (ibid). Separate periodical shelving should also be provided, suitably positioned for browsing but not interfering with access to reference materials.

The storage of non-print items may be in boxes, on shelves, in cupboards or in vertical filing cabinets. Maps, pictures and posters may be suspended, stored flat in horizontal, wooden or metal cabinets, or placed in custom-built map cabinets. Projects, including models and specimens, which are used for display or instruction, may have to be housed

in another room. To protect these items from dust and damage, deep, lockable cupboards could be used and if work space and electrical points were available the room would have multi-purpose use. Pre-viewing of films and videos by teachers could be done here in comfortable lounge chairs (A L A, 1977 : 101).

#### 4.2.2.6

##### STORAGE : HARDWARE

Equipment circulated to open classrooms or other resource areas for short periods of time should be returned to the resource centre. The bulkiness of items such as film, slide and overhead projectors requires an area adjacent to, or within the resource centre for storage of such equipment. A strong room, purpose-built, will serve the dual functions of storage and security. Where such a facility is not available, a store-room is required which has the necessary shelving space and is lockable. Further security arrangements may be necessary depending on the value of the equipment stored (L A, 1977 : 32).

## 4.2.3

MATERIALS PRODUCTION

## 4.2.3.1

WORKROOM

In order to support the concept of independent learning through self-activity assignments, a workroom for in-house production of resource materials is recommended. The activities could include the production of tape-slide programs; the preparation of graphics, transparencies, maps and charts; the production and duplication of audio- and video-cassettes and the duplication of materials in a separate reprographic area. The facilities should be available to teachers and pupils and be provided with the necessary poster paper, paints, stencils, transparency sheets and overhead projector pens. A light table and overhead projector should be permanent items. Good lighting and ventilation are necessary, as well as a sink with running water and towel service (L A, 1977 : 32). Large working surfaces and multiple electrical outlets are essential features for the activities outlined. A minimum size of 46 m<sup>2</sup> is recommended (L A, 1977 : 32). To enable recordings to be made a soundproofed area with a power point is a further requirement.

## 4.2.3.2

AUDIO-VISUAL WORKROOM

The Library Association advocates the provision of an audio-visual workroom for off-air recording, sound and vision, covering a minimum area of 28 m<sup>2</sup>. This room should be widely shelved for equipment storage and have a work bench with storage cupboards underneath for audio-visual spare parts. Trolley storage space is needed to enable the larger items of equipment to be moved quickly to areas where they are required. Security of the equipment is given high priority (L A, 1977 : 32). A simple sound recording booth is suggested for this area if no other facility exists.

## 4.2.3.3

DARK-ROOM

A photographic dark-room adjacent to the workroom is recommended for developing and enlarging films taken by the pupils. Large sinks with running water, power points, cupboard space for storing chemicals and paper, adequate counter areas and ventilation should all be provided (A L A, 1975 : 101). A dark-room implies the availability of cameras and ancillary equipment such as tripods, enlarger and copy stand. Due consideration will have to be given to the cost of such a facility in relation to the number of pupils likely to use it, the quality of the photographs

produced, and their relevance within, or outside, the school curriculum. It has been suggested that photographic equipment is third in the list of priorities, after reprographic facilities and audio-tape recording (Beswick, 1972 : 23).

#### 4.2.4

#### EQUIPMENT REPAIR AND MAINTENANCE

For basic maintenance and minor repairs of equipment a small room set up as a workshop is important. Space limitations may result in the production workroom or audio-visual workroom being used for this purpose. An area of 100-120 sq. ft. (10 m<sup>2</sup> - 12 m<sup>2</sup>) is the American standard for such a facility (A L A, 1975 : 100) where the student body numbers 1 000. The Library Association makes the following recommendation:

Work benching, at least three metres in length, with underbench cupboard storage ... in trays, is required. Power points should be provided above bench height (1977 : 32).

A wall bank of trays is also suggested for audio-visual spare parts (ibid).

## 4.2.5

FURNISHINGS AND LIGHTING

## 4.2.5.1

FURNITURE

The furniture in the resource centre should be comfortable, easy to clean and maintain, durable and stackable, simple in design, safe to use and colour co-ordinated for aesthetic considerations (Gillespie & Spirt, 1973 : 124). Carpet tiles are recommended for the main area, and for the floor and walls of the recording room for acoustic reasons (L A, 1977 : 83). Trapezoidal tables allow for flexibility in arrangement and variety when used with round and rectangular tables (Gillespie & Spirt, 1973 : 125). High stools may be required for workrooms and workshop areas. For the offices and quiet reading areas typists' chairs, easy chairs and swivel desk chairs are necessary. Upholstered, bench-type seating, (preferably divided) is needed for a lecture room or a carpeted and stepped area which will provide more seating accommodation.

## 4.2.5.2

LIGHTING

Optimal lighting conditions are required in the resource centre to obviate eye-strain and discomfort and provide

well-lit areas for reading and studying. Differentiated lighting is suggested by Gillespie & Spirt (1973 : 119) with 35-70 footcandles for regular viewing and 100-200 footcandles for specialised areas requiring brighter light. The recommended light sources are: 'warm white fluorescent lamps with diffusers, as well as the mercury vapor-type illumination' ... (ibid : 119). Dimming facilities should be available in the audio-visual and lecture rooms. The Library Association recommends the use of tungsten lighting and not fluorescent tubes because of noise interference (L A, 1977 : 32). Interestingly, in the present study one pupil (019) suggested that 'better and quieter lighting' would improve the resource centre.

#### 4.3

#### STAFFING

The American standards recommendations are based on the implementation of quality media programs at both school and district level, whereas the United Kingdom standards are concerned solely with the resource centre and its support services. This difference in emphasis is likely to result in differences in recommended provision and so the quantitative guidelines for staffing the resource centre will help clarify the base from which the standards are formulated.

TABLE 2

A COMPARISON OF THE STAFFING RECOMMENDATIONS OF THE L A AND THE A L A			
LIBRARY ASSOCIATION			
NO. OF PUPILS	PROFESSIONAL	CLERICAL	TOTAL
801 - 1 000	1 Librarian 1 Technician	1	3
1 001 - 1 500	2 Librarians 1½ Technicians	1	4½
AMERICAN LIBRARY ASSOCIATION			
NO. OF PUPILS	PROFESSIONAL	CLERICAL	TOTAL
500	1 Head of Program 1 Librarian 1 Technician	2	5
1 000	1 Head of Program 2 Librarians 3 Technicians	4	10
1 500	1 Head of Program 4 Librarians 4 Technicians	6	15

The American Library Association recommendations are authoritative, being based on time and performance task analysis (A L A, 1975 : 34). As can be seen, the staffing provision is approximately three times that of the United

Kingdom standards and is an indication of the advanced stage of development of some of the resource centres in that country.

The United Kingdom standards are more realistic in the South African context and could be considered an attainable objective. In the present study each teacher-librarian had some assistance for covering and shelving books but no clerical assistance was provided, an absolute necessity in Beswick's (1975 : 67) opinion. Four staff categories have been identified by Carroll (1979 : 12), viz: professional, technical, clerical and voluntary. These will be discussed in the sub-divisions which follow.

#### 4.3.1

##### PROFESSIONAL

The designation professional implies attitudes, abilities, skills and expertise in particular areas, which a person exhibits in the job for which he is employed. Qualifications would be expected in certain competencies related to that position but not necessarily in all. In the United States:

Persons educated and certified as media specialists, librarians or audio-visual specialists by a state or other accrediting agency are considered professionals regardless of their primary responsibility (Gillespie & Spirt, 1973 : 100).

Where a large school has committed itself to individualised and independent learning the resource centre is likely to play a key role, requiring the appointment of two professional staff, a director and a teacher-librarian. Such personnel would be expected to be dually qualified in education and librarianship to perform the functions required in a school resource centre (L A, 1977 : 15).

#### 4.3.1.1

##### RESOURCE CENTRE DIRECTOR

The director of the resource centre would be expected to have academic and professional qualifications and experience including managerial and administrative skills, as well as knowledge of the media and their educational application (A L A, 1975 : 23). With such competencies it is important that due recognition be given in seniority and financial reward:

The school library resource centre is most effective when its operation is the full-time concern of the person in charge, who should have the salary and status equivalent to that of a head of an important department and be involved in policy-making (L A, 1977 : 16).

The director's responsibilities would include planning and administering the total resource centre program; drawing up job descriptions of resource staff; delegating duties and responsibilities; developing, proposing, motivating and controlling an annual budget, and ensuring close liaison

with the principal, school committee and other relevant bodies within and outside the school, and the neighbourhood community. The director would also initiate 'in-service' training programs for teachers and ensure pupil competencies in the use of equipment (Thomason, 1981 : 26). He would also be expected to formulate an evaluation and selection policy and co-ordinate the purchase, organisation and distribution of resource materials and equipment (Ward, 1973 : 97). The most important role of the director is that of public relations in promoting the use of the resource centre by teachers and pupils.

#### 4.3.1.2

##### TEACHER-LIBRARIAN

As previously mentioned (see 1.4.2), the teacher-librarian was traditionally a teacher involved in running the school library, with no qualification in librarianship. This was often done on a part-time basis or as an extra-curricular activity (L A, 1977 : 15). Ivers (1984 : 41, 42) in a recent survey in England discovered that none of the seven teacher-librarians interviewed had any qualification in school librarianship and six of them were full-time teachers and part-time librarians. Professional qualifications in both fields are now being recommended in the United Kingdom (L A, 1977 : 15); and in South Africa dual qualifications

are officially specified but there is a shortage of such highly-qualified personnel.

Teachers responsible for running the school library resource centre may gain some experience of library procedures by 'in-service' courses provided by local education authorities or departments of education (C E D, 1981). In the Cape Province full-time teacher-librarians are allocated where a school has a complement of 500 pupils and additional part-time teacher-librarians are appointed on the basis of one-fifth of a person per 100 pupils. However, all resource centre personnel are part of the normal teaching quota granted to a school on the basis of enrolment, and thus subject to the principal's decision on priorities (Job, 1984 : 76).

The teacher-librarian, in conjunction with the resource centre committee, is responsible for selecting, evaluating and purchasing material. Other responsibilities include: processing the items purchased, producing book lists, guides and displays; training pupil assistants; compiling statistical returns and promoting the resource centre with assistance to teachers and pupils (see Appendix 2).

## 4.3.2

TECHNICAL STAFF

The maintenance and repair of equipment such as film, slide and overhead projectors, video-cassette recorders and cameras, television sets and monitors, lighting and sound equipment and computer hardware, would suggest the need for a technician who could also be responsible for the reprographic equipment and duplication of material for teachers and pupils. Production of graphics and display materials are other areas where assistance could be given (L A, 1977 : 16). With the introduction of video equipment there is a need to edit 'off-air' material, record and copy, and this could be a further responsibility of the technician. It is suggested that one-half time (equivalent to a mornings only) post be allocated for technical support in a school of 1 000 pupils (Carroll, 1979 : 13).

## 4.3.3

CLERICAL STAFF

Clerical assistance should be available to enable the teacher-librarian to devote more time to user guidance (see 7.3.1.6.1; 7.3.1.6.2). The duties of clerical staff (see Appendix 2) involve typing correspondence, catalogue cards, bibliographies and guides; maintaining records, inventories and bookkeeping accounts; shelving, filing and photocopying

material; processing orders and checking deliveries; producing basic resources such as transparencies; issuing and discharging materials and equipment; booking and distributing films and assisting teachers and pupils as required (A L A, 1975 : 24-25; Chisholm & Ely, 1976 : 33). Beswick (see 7.3.1.6.1) highlights the crucial role of clerical assistance in maintaining a viable resource centre.

#### 4.3.4

##### VOLUNTARY STAFF

The resource centre requires volunteers to carry out the numerous repetitive tasks inherent in the issue, discharge and processing of materials (Beswick, 1977 : 230). These may be persons from the community or pupils in the school.

#### 4.3.4.1

##### PUPIL ASSISTANTS

Pupils who work in the resource centre as assistants should be trained in issuing and discharging procedures, information retrieval, shelf reading and user guidance. Household chores such as tidying shelves and the periodical rack, sweeping and dusting, watering plants and returning books to the shelves are some of the tasks for which they could be responsible.

Competency in resource centre procedures should be tested to enable them to provide acceptable service to their fellow pupils and to teachers who require assistance. Certain privileges may be granted to these assistants who are provided opportunities to develop their leadership potential (Carroll, 1979 : 14).

#### 4.3.4.2

##### PARENTS

Parent volunteers are likewise indispensable in carrying out clerical and technical tasks and may be involved in covering books, cutting up filmstrips to make slides, stapling cuttings, repairing books, making charts and posters and creating displays. Beswick (1977 : 30), in describing the resource centre development at Codsall secondary school, noted the contribution of parents:

There is no tradition of such parental involvement in British schools, but the parents themselves were glad to help and in the process gained an insight into the workings of the school and its aims; the result in terms of community relations was a happy one.

The responsibilities of resource centre staff covering all four categories of personnel are outlined in Table 3.

TABLE 3

DISTRIBUTION OF RESPONSIBILITIES IN THE RESOURCE CENTRE

	RESOURCE DIRECTOR	TEACHER-LIBRARIAN	PUPIL LIBRARIAN	CLERICAL ASST.	TECHNICIAN	PARENTS	TEACHERS	PUPIL ASSISTANTS
ORGANIZATION	X	X	X	X	X		X	
SUPERVISION		X	X		X		X	X
PROCESSING OF EDUCATIONAL MATERIAL								
- SELECTION		X			X		X	
- ACQUISITION	X	X						
- CLASSIFICATION		X						
- CARD CATALOGUE		X		X				
- EVALUATION		X			X			
- PROCESSING (LABELS, PLASTIC COVERS, DATE SLIPS, ACCESSORY CARDS)		X	X	X		X		X
MEDIA PRODUCTION	X	X			X		X	X
DISTRIBUTION								
- HARDWARE		X		X	X			
- SOFTWARE		X	X	X				
MAINTENANCE								
- HARDWARE					X			
- SOFTWARE		X						
DEMONSTRATION								
- HARDWARE		X	X		X			
- SOFTWARE		X						
ANCILLARY FUNCTIONS								
- SECRETARIAL	X	X		X		X		
- REPROGRAPHIC				X	X	X		
- DISPLAY		X	X			X		
FINANCIAL MANAGEMENT	X							

(GUIDE FOR THE CONVERSION OF SCHOOL LIBRARIES INTO MEDIA CENTRES.

UNESCO, 1977 : 12)

## 4.4

RESOURCES : SOFTWARE

Resource materials are synonymous with the generally accepted term 'software', developed from computer technology (Percival & Ellington, 1984 : 204). The software list is extensive and includes slides, films, filmstrips, transparencies, cuttings, maps, charts, globes, models, audio- and video-cassettes, floppy disks, records, models, specimens, pictures and photographs. A bank of duplicated material may be kept where textbooks are few or limited in content, or as supplementary resource materials (see 7.2.1.2.2). Books, periodicals and other print materials are the backbone of the collection and normally provide the largest number of items.

Resource materials will be considered under the following aspects:-

- (1) Stock provision
- (2) Production
- (3) Selection and evaluation
- (4) Educational relevance.

## 4.4.1

STOCK PROVISION (see Table 4)

A wide range of resource materials should be available to meet the needs of the users. The number of pupils and teachers, the teaching strategies employed and the financial provision granted, will all influence the quantity of materials in the collection which is no less important than the quality. The Library Association states that 'While the quality and relevance of the stock are of first importance, the school library resource centre ... will fail to meet the needs of pupils and teachers if material is insufficient in quantity' (1977 : 23).

These two factors are crucial for a positive response to the resource centre for if a pupil or teacher is disappointed in his search for relevant materials, even if only on one occasion, he may go elsewhere and not return. As Wagner (1982 : 144) emphasises 'Inadequate software is a key element in the dissatisfaction with the effective use of media in education'.

SCHOOL LIBRARY RESOURCE CENTRES: CALCULATED NUMERICAL LEVELS OF STOCK PROVISION  
(This table to be used in conjunction with paragraphs 74,90 and 91)

1 Age group	2 No. of items which are assumed to be in simultaneous use by each pupil	3 No. of items additional which should be available in stock* per pupil	4 Total items in stock* per pupil <sup>+</sup>	8 Extent of stock* needed in school with roll as shown within each category when principles in paragraph 74 to 80 are applied				
				5 Up to 240**	6 500	7 700	8 1000	9 1500
5-11	5	6	11	2640	5500	8250	11000	
11-16 (15 in Scotland)	6	7	13	3120	6500	9750	13000	19500
Over 16 (Over 15 in Scotland)	6	13	19	4560	9500	14250		

\* A unit of stock is any item packaged in one piece, e.g. a portfolio, a set of slides in a wallet and a cased collection of butterflies each count as one.

<sup>+</sup> 'The needs of an individual child are the same, whatever the size of the school he attends'. Bullock, *A language for life*. (21.24)

\*\* Schools of under 240 should be provided for as if they were that size. See paragraph 79.

N.B. Stock levels indicated in this table are inclusive of books and non-book materials but exclude textbooks and materials held in departments as working tools.

(LA, 1977 : 25)

The Library Association's recommendation on the quantity of stock provision is outlined in Table 4. This estimated provision is calculated as follows:

NO OF ITEMS WHICH ARE ASSUMED TO BE IN SIMULTANEOUS USE BY EACH PUPIL.	+	NO OF ITEMS ADDITIONAL WHICH SHOULD BE AVAILABLE IN STOCK PER PUPIL.	=	TOTAL ITEMS IN STOCK PER PUPIL.	X	TOTAL NO OF PUPILS ON ROLL.	=	TOTAL STOCK.
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(L A, 1977 : 22)

The American Library Association comments pointedly that 'There is no limit to potential user need and therefore no justifiable quantitative limit to the size of a collection' (A L A, 1975 : 70).

A recommendation of 40 items per user is given (ibid).

#### 4.4.2

#### ACQUISITION AND PRODUCTION

Resource materials are acquired either by purchasing commercial material, 'in-house' production or donation and will be considered under these headings.

## 4.4.2.1

COMMERCIAL PRODUCTION

Commercially produced items make up the bulk of resource materials and profitability is the motivation. To make a profit from educational software an extensive marketing and distribution network is required to achieve sufficient sales (Tucker, 1979 : 12). In Tucker's opinion the production quality of the commercial resources is high but this is not always matched educationally (ibid : 20). A further problem is the modification of commercial material by the teacher to suit his curricular requirements (Ryder: 1975 : 4). It is suggested that this may be the result of ill-defined educational objectives and lack of teacher consultation. The need for adequate, high quality software is apparent:

There is a desperate need for major investment of time, money and sheer intellectual effort in the production of learning materials which will make full use of the new technologies. (Willis, 1984 : 77)

As noted elsewhere (see 2.3.2) curricular development initiated by the Schools Council led to packaged materials for the innovations that they introduced (Thornbury, 1979 : 132).

Closer liaison with teachers, pupils and curriculum specialists will ensure that commercial resource materials

will meet the needs of the users, be commercially viable and educationally relevant.

#### 4.4.2.2

#### IN-HOUSE PRODUCTION

The resource materials that are produced by pupils, whether for interest, instruction or assignment, are highly relevant to them and may have involved hours of production. This should be applauded and encouraged and, if the items are valuable in terms of subject content and quality of production, the resource centre should consider purchasing the material for its collection. Where excellent assignments or projects are completed as part of course work the pupils should be encouraged to donate these to the resource centre, as examples of outstanding work, with the proviso that these projects do not leave the resource centre, to prevent plagiarism. In the researcher's experience, encouraging pupils to produce items such as slides, tapes and transparencies creates interest, a feeling of achievement, and peer group motivation to emulate such production.

In the same way pupil production of films and videos may produce extra-curricular benefits as Arnstine (1979 : 139) points out: 'If students ... are enabled to create their own media presentations, a strikingly wide variety of

interests can be accommodated. They can share purposes in this way, even though their diverse interests may include writing, managing, designing, staging, acting, filming and other technical areas. To pursue these activities intelligently in the co-operative setting demanded by media production has great educational value, whether or not the activities eventually lead to traditional academic goals.

To meet their own curricular needs teachers produce transparencies, slides, photographs and audio-cassettes. Where these could be valuable additions to the resource collection it is suggested that they be duplicated. If materials are supplied by the resource centre the items should be duly evaluated and become part of the collection. Teacher production of resource materials is viewed skeptically by Gibson (1982 : 3) who feels teachers lack production and graphic skills, and have had no training in using effectively the range of materials available and furthermore have no time to spare for such activities. Ryder (1975 : 24) is even more critical:

We must guard against exposing our students to an excess of second-rate domestic material, no matter how sincere our intentions. Audio-visual hardware transmits material - it does not transform it.

It is accepted that few teachers will have production and graphic skills, but only experience will improve those that they do have. It is contended that as the teacher is the key to the use of classroom resources, where he has produced

his own materials, based on his own instructional objectives these materials will be utilised. Reider (1984 : 13) supports this contention when he comments that 'Educators have always had a difficult time accepting 'off-the-shelf' curriculum. They are known for their deep belief in the need to create unique curriculum to meet the needs of the students in their own schools'.

Valuable 'spin-offs' have accrued to teachers who have produced their own resources in their ability to discriminate between poor and good quality commercial items and in their knowledge of production techniques (Beswick, 1977 : 29).

#### 4.4.2.3

#### DONATIONS

A donations policy should be formulated to ensure that the resource centre does not become a dumping ground of unwanted materials. Donations are received continuously as a result of bequests and the generosity of parents and patrons of the school. These are normally books and periodicals which should be scrutinised and objectively evaluated for inclusion or rejection. The resource centre should be under no obligation to retain resources not compatible with its needs, and should disseminate those regarded as unsuitable to other organisations which may be able to utilise such materials in a different capacity.

## 4.4.3

COLLECTION DEVELOPMENT

The raison d'être for the existence of a resource centre in a school is to satisfy the needs of the users. It is with the intent of meeting these needs that the resources should be carefully selected and evaluated by those who are to use them (Carroll, 1979 : 16). A selection and evaluation committee of teachers, pupils and resource centre staff should be formed and, in consultation with the principal, select the stock for perusal (Whitenack, 1971 : 416). Recent research in the United Kingdom stresses the role of the principal:

Heads play a key role in the acquisition of learning resources not only because it is considered by heads themselves, teachers and external agencies to be their role, but also because it involves money, something for which heads feel particularly responsible (Williams, 1980 : 132).

In the researcher's view the principal's role is an advisory one, except for decisions on major equipment expenditure. The principal should acknowledge the professional competence of the resource centre staff by delegating responsibility accordingly, which is implied in a budgeting allocation and the selection, evaluation and purchase of stock.

## 4.4.3.1

SELECTION

A written selection policy, formulated by teachers, pupils and resource centre staff, with due consideration for existing resources, is recommended to ensure acquisition of materials suitable for user needs and the requirements of the curriculum:

Basic to effective selection is the establishment of co-operatively developed priorities that consider the existing collection and identify its strengths, gaps and pertinency (A L A, 1975 : 65).

Publishers' catalogues, bibliographies and current reviews of materials should be consulted before the items are obtained for appraisal. In this regard the selection guides of the Transvaal and Cape Education Departments are useful pointers to relevant resources and a preview of book materials is possible through the "model libraries" collections.

## 4.4.3.2

EVALUATION

All resource materials, whether produced commercially or 'in-house', should be seen and evaluated on the same objective criteria before purchase (Carroll, 1979 : 17).

These evaluative criteria should include: appropriateness, authenticity, impartiality, curriculum relevance, user interest and cost.

#### 4.4.3.2.1

##### PRINT MATERIALS

In considering books and periodicals, additional criteria such as the purpose, qualifications of author and publisher, age level, content, technical quality, illustrations and supporting opinion should be taken into account (see Appendix 3).

#### 4.4.3.2.2

##### NON-PRINT MATERIALS

Evaluative criteria for charts, films, filmstrips, slides, transparencies, globes, maps, audio-cassettes, records, pictures and prints are comprehensively documented in a report published by Educational Research Service, Incorporated and cover technical quality and organisation (see Appendix 4).

## 4.4.3.2.3

STOCK EVALUATION

The evaluation of current resources is a continuous process to ascertain their present usefulness in the light of curricular and syllabus changes, and their content relevancy with regard to expanding knowledge. Damaged items should be repaired or withdrawn from stock and periodicals bound.

## 4.4.3.3

WEEDING

With the rate of expansion of knowledge (see 2.2.1.3) and the tendency to review and change subject syllabi it is important to scan the collection to ascertain its relevance to current needs. A process of continuous weeding should take place in consultation with the subject teachers to remove out-dated materials. This applies in particular to reference works and scientific and technical resources.

## 4.4.4

EDUCATIONAL RELEVANCE

We know with certainty little more than that audiovisual techniques can contribute to learning (Allen, 1969 : 219).

The majority of research findings are concerned with the so-called 'Big media', viz: instructional television, films,

computer-assisted learning programmed instruction and radio. 'Little media' research includes studies on the use of audio-cassettes, filmstrips and transparencies.

An analysis of research results from 1933-1972 indicates that (in the majority of studies) there is no significant difference between conventional teaching methods and those employing audio-visual aids (Schramm, 1977 : 45-53). However, the use of transparencies in one study (Chance, 1960 cited in Schramm, 1977 : 52) revealed significant differences in learning and time taken and Kelley, 1961 : ibid) had significantly better results with an experimental reading group using filmstrips.

There is no categorical imperative therefore for the use of audio-visual software in teaching, but it is suggested that there may be in learning, where a philosophy of individualised learning has been accepted and implemented in a school. Wide-ranging individual differences, as previously described (see 2.3.3.1) may provide an educational justification for the use of a variety of different resource materials by pupils. However, more recent research, described in what follows, would seem to indicate that there are proven educational benefits in the use of the 'Big media' and perhaps also in the 'Little media' (see 3.3).

## 4.4.4.1

RADIO

The problem experienced with broadcasted educational materials, in the United Kingdom and elsewhere, was that the time schedule, as laid down by the broadcasting authorities, did not necessarily coincide with the school timetable of the teachers who wished to make use of the programs. Furthermore, preparation time was required before the broadcast, and sufficient time for a follow-up discussion to achieve a meaningful learning experience. This was not always possible within the structured timetable, bearing in mind the subject content to be covered for testing or examinations. These constraints, however, have been negated with 'off-air' recording by means of cassette recorders, the programs now being available on tape for convenient and repeated use, if desired.

It has been found that, as in film use, support materials, preparation, follow-up and vocabulary explanation produce more effective learning experiences (Hayter, 1974 : 16).

Research in various countries has proved the success of educational radio (and television) broadcasts in meeting learning needs, and recommendations for its earliest implementation in South Africa have recently been made (H S R C, 1984 : 129).

## 4.4.4.2

TELEVISION

The case for the study of television rests upon the significance and potency of a mediating process which exists independently of the existence of the event being televised (Masterman, 1980 : 8).

The importance of the process rather than the content is the key factor in television studies to enable the pupil to assess critically, for the pervading influence of television is due to its immediacy; the emotional response it evokes and its immediate gratification (Postman, 1981 : 7). Television has been shown to teach a wide range of skills and behaviours important to children's growth, both intellectual and social (Lesser, 1984 : 29-31). Learning is also improved by the presence of co-watchers in the family and television can, simultaneously, entertain and educate (ibid : 30). Sesame Street, an entertainment-orientated children's program has successfully taught words and counting skills (ibid). More recent research has identified specific television forms that distinguish it from other media:

The television forms that maintain attention for children across a wide range include animation, physical movement or activity, children's speech, visual speech effects, auditory changes and sound effects and women's voices (Huston & Wright, 1984 : 13).

In a detailed two year project to assess the value of school radio and television broadcasts, in which preparation and

follow-up were key components. Hayter (1974 : 63) analysed the written comments submitted by 400 teachers from 118 participating schools and concluded that broadcasts were successful and effective. Significant factors for school integration were supplementary written materials; prior discussion of content vocabulary; and 'off-air' recording for re-scheduling according to teacher-pupil curricular requirements.

The pervasiveness of the medium is underlined by the fact that pupils spend more time in front of the television screen than in the classroom (Lesser, 1984 : 13). Postman (1981 : 5) estimates a school curriculum of 11 500 hours over a 13 year period for the American pupil and 15 000 hours of television from age 5-18. This does not include radio and record listening hours, and film viewing, which he claims would then amount to some 20 000 hours of exposure to the electronic media. This leads Postman to define television as the first curriculum and school the second. Extensive viewing habits have also been confirmed in Australia and South Africa (cited in Grové, 1984 : 17). This would seem to indicate the need for visual literacy to be taught:

Teaching students to observe and think about what they see, teaching them how to see is an essential ingredient in a visual society (Miller, 1984 : 27).

In the competing worlds of the television curriculum and the school curriculum the former, being picture-oriented, does not require literacy for understanding (Huston & Wright, 1984 : 12) and the latter, being language-based, requires a high degree of literacy, abstraction and conceptualisation (Postman, 1981 : 6). The structure of the medium is of discontinuous, discrete presentations which permit no alteration or interaction between viewer and content except by switching it off (ibid : 8-9).

#### 4.4.4.3

#### FILMS

Film research in the United States has shown that effective learning occurs where there is prior explanation of any specialised vocabulary; when study guides are consulted before and after viewing; when the teacher indicates points of focus and mentions a post-test; when the film is stopped for discussion and note-taking; when flashback technique is used and where key points are repeated or the film is viewed for a second time (Brown, 1959 : 285-86).

Films may be used in different contexts, depending on content. Documentary films may be of value in history as records of past events, for example the rise of Nazism; animated films may be used to reveal the body's functions

for biology teaching, while narrative films such as the White Stallion may relate to the English curriculum.

Film studies, as part of the curriculum, may be concerned more with process than content (see 4.4.4.3) and have different objectives:

A film educator should help children how to learn, how to respond sensitively and affectively to others, how to clarify their sense of who they are, and how to develop capacities to choose freely from a variety of alternatives (Lacey, 1972 : 2).

In the South African context Grové (1979 : 199-200) has commented on the introduction of film studies as an examinable matriculation subject, citing greater pupil relevancy and the fact that vicarious experience is, and will be, a major component in their lives, as justification for its inclusion in the curriculum. Masterman (1980 : 2), however, decries the linking of such studies to examinations as assessment procedures lead to pupil control and alienation from the subject.

Visual primacy is the essence of film communication and its greatest influence occurs when the viewer's attitudes and prior knowledge are confirmed by what is seen. Film content presented in human terms creates empathy and hence good film communication (Madsen, 1973 : 5-8).

The use of film in teaching and learning requires pre-viewing by the teacher, preparation of a worksheet for the pupils, explanation of concepts before viewing and a follow-up discussion. The completion of an evaluation form by the teacher (see Appendix 5) will provide personal assessment, summary of content, standard suitability and prior information for colleagues. An evaluation file should be retained in the resource centre available for pupil and teacher reference.

The high cost of films is likely to preclude outright purchase, although this could be shared by neighbouring schools. Outside agencies, commercial or educational, may provide films free or on a rental basis. Acquisition, distribution and return of films is part of the resource centre service and requires close liaison with teachers and outside agencies.

#### 4.4.4.4

#### VIDEO

The comparatively new technology of video has significant educational implications:

Once broadcast material can be recorded, stored and retrieved to enhance our understanding or learning process, it becomes enormously more valuable educationally, than if viewed on a set occasion and never seen again (Moss, 1983 : 40).

The introduction of video to the schools has permitted 'off-air' recordings to be made of materials suited to curricular needs and for these to be replayed at the most convenient time. Hayter's (1974 : 15) research indicated that this was the most significant development reported in the use of broadcast materials and Gibson (1981 : 67) noted a similar finding in Scottish secondary schools. The most valuable uses of video are in the recording and playback facilities; the frame-by-frame advance; the ease of use; and the multiple use of video-cassettes. The video-cassettes are convenient to store but may require search time when three-hour cassettes contain a number of recorded programs.

An interesting development in Nebraska allows teachers to select video programs from a catalogue and receive confirmation of time and date of broadcast, plus supplementary materials, within a week. Relevant, and current materials, are available at short notice and chosen by the teacher to meet his immediate requirements (Chapman, 1973 : 52-53).

The researcher has found that teachers ask for 'off-air' recordings for use in all subjects, where they assess content as being related to their curricular needs. A further development has been requests from teachers to be filmed in the classroom for personal assessment of their teaching style.

## 4.4.4.5

COMPUTER DISKS OR CASSETTES

Microcomputers in schools are used in two distinct ways: (a) for administration; (b) for computer studies. Administratively the microcomputer may be used to store pupil information on disk, monitor pupil progress, list examination results, print reports and retain other administrative records.

In computer studies the use of the computer may be taught as an examinable subject or as an introduction to computer history (see 7.3.1.2.1).

The microcomputer is the ideal medium for supplementing classroom teaching, by providing repetitive exercises to ensure mastery. Mathematical concepts and skills may be learned in this way, the individual's test results being evaluated and a report issued for the teacher (Conradie, 1979 : 99).

Computer programs may be used to teach, or list, facts. Spelling programs and the recall of multiplication tables are examples of such drill programs, which by their nature are for individual students. Nash & Ball (1982 : 99) define a drill program as 'one that is designed to modify a

student's knowledge and behaviour in a manner completely prescribed by the teacher' (Nash & Ball, 1982 : 99).

Competitive programs have been written for groups of students and these may be simulated games in such subjects as history, geography or economics (ibid : 105).

In Hawkrige's opinion 'A good program requires the student to examine a problem, plan an investigation, respond to computer prompts and interpret computer-generated results'. (1983 : 105).

Computer packages in biology, chemistry and physics have been produced by the Schools Council and tested successfully in secondary schools in the United Kingdom. An economics program that has been formulated requires no previous computer experience and clarifies such concepts as price fluctuation, creation of credit and elasticity of demand (ibid : 102).

The fields of business studies and science are seen to be particularly relevant to school microcomputer applications. In the former, an international travel company held a competition for secondary schools to design and program a training game for their tour operators (ibid : 101). The use of the computer in science programs is of value because dangerous experiments can be simulated graphically; the

time-span of experiments can be shortened and expensive materials or equipment are not required (ibid : 105).

#### 4.5

##### RESOURCES : HARDWARE

Hardware items are difficult to quantify, as much will depend on what support services are available to provide, by means of a grant, a loan or rental, film and slide projectors, computer and video equipment. In the United Kingdom a government subsidy to support its Microelectronics Education Programme (M E P), has enabled most primary and secondary schools to purchase a microcomputer (Baker, 1984 : 109). Such support is necessary for major capital items but the resource centre itself may have acquired other hardware related to school and user needs. The type of equipment available should include some of the following: film and filmstrip projectors; slide and overhead projectors; audio-cassette recorders; record players; slide viewers; television sets and/or monitors; cameras - Super '8', 35mm, and video; video-cassette recorders; hi-fidelity sound equipment; closed-circuit television; microcomputers; computer-assisted instruction; language laboratories; microform readers; photocopying machines; transparency makers; duplicating machines; and typewriters.

With the range and cost of such hardware it is pertinent to re-emphasise that equipment purchased be related to need to avoid 'a multi-media white elephant' (Gibson, 1982 : 3). With the speed of technological change (Willis, 1984 : 74) it is important to ensure the purchase of equipment which is standardised, suited to present and future needs, compatible with existing resource centre hardware and projected future purchases, and has spare parts and accessories readily available. The choice of video formats, for example, determines the availability and variety of programs and with the introduction of the new video-cassette, similar in size to the audio-cassette, the previous formats may become obsolete. This problem of obsolescence was particularly evident in the present study in School B, where video equipment, purchased soon after the introduction of video, became obsolete within a few years, resulting in costly expenditure in cassettes and equipment to transfer to a new format.

#### 4.5.1

##### STOCK PROVISION

The Library Association gives no recommendations on any hardware but the American Library Association guidelines are extensive (A L A, 1975 : 70-86). The provision will equate with the aims and objectives of the school, resource centre

development, user needs and attitudes, particularly those of the principal (see 4.4.3), and financial commitment.

#### 4.5.2

##### COLLECTION DEVELOPMENT

The selection and evaluation of hardware is more difficult because of the range of products and the detailed technical specifications given, which require technical expertise to adjudge their relevancy and value. The selection committee, it is suggested, should co-opt a parent with technical background and experience if no staff member with such qualifications is available. The key factor once again is teacher participation, and van Wyck underlines this when he states that 'We must provide the opportunity for interested teachers to participate in the evaluation and selection of equipment, materials and policies related to their use' (1971 : 91).

#### 4.5.2.1

##### SELECTION

A written selection policy, with guidelines on priorities to meet user needs, should be drawn up by the committee before the selection of appropriate hardware for preview. Manufacturers' brochures and pamphlets should be scrutinised to determine what is available to match the requirements previously outlined. Selecting the equipment for perusal

will be determined primarily by the cost factor, for limited finance necessarily limits choice. Other factors are considered in the following sub-division on evaluation.

#### 4.5.2.2

##### EVALUATION

Evaluation criteria for the purchase of hardware should be sufficiently detailed to permit non-technical evaluators to adequately assess equipment considering the range available.

Brown & Norberg (1965, 104-105) provide a list of general criteria for evaluating equipment which includes such factors as: usefulness, operability, performance, safety, compatibility, sturdiness, repairability, portability, reputation, cost, warranty and service. A similar list for audio, visual and audio-visual equipment has been produced by Gillespie, (1977 : 88; see also Appendix 6).

It is important that equipment be evaluated before purchase and preferably 'in situ' when being tested for use in lecture rooms or halls (A L A, 1975 : 63). This applies particularly to sound equipment with remote control access or where omni-directional microphones are to be used.

## 4.5.3

EQUIPMENT REPAIR, MAINTENANCE AND SECURITY

All hardware items will require regular maintenance to ensure their optimum use and the services of a technician would seem to be indispensable in a resource centre with a large amount of equipment. The Library Association acknowledges this with its staffing recommendations for a resource centre of +800 pupils (see 4.3 Table 3).

A full-time technician is needed from the introduction of the resource centre concept in a school, for the personal supervision and maintenance of equipment. If one of the technician's responsibilities is servicing the reprographic needs of the school he will be fully occupied (see 3.3; 4.3.2).

## 4.5.3.1

EQUIPMENT REPAIR

Minor repairs should be carried out in the resource centre and equipment under guarantee should be returned to the manufacturer. A stock of replacement lamps for overhead, film and slide projectors will be needed to facilitate instant repairs and retain teacher confidence in resource centre service.

## 4.5.3.2

MAINTENANCE

Regular cleaning of equipment will be necessary particularly with film projectors and heads of cassette recorders, audio and video. Overhead projectors will require servicing at least once a year as will film and slide projectors. Proper maintenance of equipment will ensure longer life and optimal use.

## 4.5.3.3

SECURITY

The high cost of equipment and its replacement necessitates an effective system of security. A strong room is useful for storage, distribution and security, although restriction on access may inhibit use. Security considerations are mentioned in the American Library Association guidelines (A L A, 1975 : 100), as they are in those of the Library Association (L A, 1977 : 32). Equipment in halls, lecture and audio-visual rooms should be secured by wall brackets and an alarm system installed. Where a technician is available in the resource centre security of the equipment should be one of his responsibilities.

## 4.5.4

EDUCATIONAL RELEVANCE

The relevance of certain equipment in the educational context will now be discussed with particular reference to the film projector, video - cassette recorder and camera and the micro-computer.

## 4.5.4.1

FILM PROJECTOR

With technological improvements projectors have become easier to operate. Self-threading machines with minimum maintenance and replacement requirements ensure cost-effectiveness and ease of use. It is important that teachers use the equipment efficiently and confidently and in-service workshops should enable competency to be attained. The researcher has found resistance from long-serving teachers despite repeated demonstration. To overcome this pupils from every class should be trained in the correct use of the equipment to ensure ready access and avoid delays in presentations. However, this does not replace teacher mastery of the hardware, which is an essential requirement for optimal use.

## 4.5.4.2

VIDEO CASSETTE RECORDER AND CAMERA

The portable video-cassette recorder and camera have widened dramatically the learning experiences of pupils. Where they are permitted to use the camera under guidance and supervision, significant learnings may be achieved, as vouched for by Moss (1983 : 28):

To watch them at work is to recognise how skilled, varied and complex is human learning, and how swiftly an enthusiastic mind can adapt to the challenge of an unfamiliar yet attractive mode of study.

Of primary significance is the experience offered in the use of video, the aspect of quality in pupil productions is secondary but is likely to improve with experience. An investigation conducted in 1980-1981 in Scottish secondary schools, revealed that 89% of them had video recorders and colour television sets but the medium's educational potential for replaying and review was not utilised by the teacher (MacIntyre, 1983 : 227).

## 4.5.4.3

THE MICROCOMPUTER

The inherent advantages of the microcomputer are in its memory storage capacity; speedy retrieval of information; fast calculations, visual presentation format and word-processing ability. Pupils may be motivated to using the

microcomputer because it is a new medium in which the material is presented in screen format and may employ game strategies which are open to learner manipulation (Nash & Ball, 1982 : 100). The fact that the microcomputer provides a one-to-one relationship; is uncritical of incorrect responses; gives immediate feedback; and encourages success by alternative choices, may be further motivating factors. Hawkridge (1983 : 106) considers the intellectual challenge to be the prime motivator in the use of the microcomputer for there is considerable motivation inherent in the challenge presented by simulated experiments and investigations.

The introduction of microcomputer projects in schools was the result of aggressive marketing strategies of the hardware and software manufacturers and not a movement from within education (Bear, 1984 : 11). Schools bought the hardware and found little compatible software on the market. Teachers had been sold on the machines and not the final product (ibid : 12). Papert's claim (1978 : 258) that the microcomputer would improve learning may yet have to be proved and Bear (1984 : 12) supports him in this:

Few of us actually know if microcomputers are having any worthwhile impact on the effectiveness of schools in improving learning (Bear, 1984 : 12).

A further problem in the schools is the resistance to its introduction where teachers are reluctant to relinquish the

teaching function to a computer program (Blumenfeld et al, 1979 : 189). In this regard House (1974 : 263) considers the computer will be accepted by teachers in gaming and programming roles but not in a subject-teaching capacity, although recently science programs have been proved successful (see 4.3.4.5). Where teachers can perceive subject-related benefits in the introduction of microcomputers motivation may follow.

Programs devised for the slow or the gifted may allow time to be given to those with other learning problems (Willis, 1984 : 74). Baker (1984 : 114), in his analysis of the effect of the microcomputer on the curriculum cautions that pupil passivity is a danger, where programs are authoritative (computer-assisted instruction) rather than creative (Logo), and may restrict natural language development.

In Naisbitt's opinion (1984 : 34) the information society will require two languages, viz: English and computer, and predicts their widespread use in schools because they individualise education, provide a means of 'recordkeeping' and offer a saleable skill in the job market (ibid : 33).

## 4.6

INFORMATION RETRIEVAL DEVICES

The user must be able to find the information he is seeking as simply and as quickly as possible:

We require of a retrieval system that it should be fast, cheap, accurate, reliable, simple, easy to use and maintain. We also desire it to have an educative function, leading an enquirer to themes and materials of which he would not otherwise have become aware, and pointing out associations which he would not have considered without the help of the system (Featherstone, 1973 : 8).

School resource centres may employ some of the following retrieval devices:

- (1) Dewey Decimal Classification System.
- (2) Alphabetical or dictionary catalogue.
- (3) Book catalogues and book guides.
- (4) Co-ordinate indexing.
- (5) Book blocks, shelf guides and posters..
- (6) Computerised retrieval.
- (7) Audio-visual programs (demonstrating retrieval techniques).
- (8) The use of microforms.

## 4.6.1

DEWEY DECIMAL CLASSIFICATION SYSTEM

This system, used in many public libraries, may be modified for school use as outlined in Appendix 7. The decimalisation feature allows for expansion in most fields of knowledge. Classification of resource materials is a skilled job, requiring the services of qualified personnel to ensure correct classification and added entries, for maximum use and ease of retrieval. The essence of the system is that similar materials are brought together, in ordered numerical arrangement, so that they may be easily found by the user. Books arranged on the shelves by the Dewey system may be quickly identified but there are problems with non-print materials. The shape and size of the items may necessitate different means of storage resulting in the user having to look in different areas to retrieve slides, transparencies, maps or audio- and video-cassettes, on the same subject. This would seem to be unavoidable considering the variety of formats at present, including games, models, multi-media kits and learning packages. Despite the different means of storage chosen the items are in a Dewey-numbered sequence and so can be identified with related materials.

Catalogue cards are produced for each item in the resource centre and these may be four in number, author, title,

subject and shelf card. The latter is for administrative purposes and the former provide user entry points for locating resources. Plain white cards are used for books, and non-print items may be indicated either by a coloured card or a colour-coding system, to identify the different types of resource materials. An integral part of the card system are the 'see' and 'see also' cards. The former indicates the term used in the resource centre, and the latter provides details of other places to look at in the index for related information. The Library Association recommends an integrated catalogue, which allows for different approaches and caters for different needs, with item type and location clearly designated and capable of being used by all pupils in the school (L A, 1977: 12).

#### 4.6.2

#### CATALOGUES

An effective catalogue is an indispensable key to the stock in libraries [resource centres] of any size. Whatever type or form it may take, it should provide some means of showing what books are available in the library [resource centre] on each subject and by each author (Maltby, 1978 : 245).

The catalogue is the key to information retrieval in the resource centre and only complete understanding of how it functions, no matter what the format, will enable the user to gain access to all the resources available to him.

There are three kinds of card catalogue in general use which will be mentioned briefly in what follows.

#### 4.6.2.1

##### ALPHABETICAL CATALOGUE

The alphabetical form is arranged in two sequences, one by subject and the other by author and title. It is the alphabetical catalogue which is normally used in the United States (Beswick, 1972 : 48).

#### 4.6.2.2

##### DICTIONARY CATALOGUE

In the dictionary form, all the cards; subject, author and title are arranged in one alphabetical sequence.

#### 4.6.2.3

##### CLASSIFIED CATALOGUE

The classified catalogue in its complete form consists of three sequences, the classified sequence in notational (Dewey) order; the A - Z author-title sequence and the A - Z subject index.

Resource centres in the United Kingdom are inclined to use either the classified or the dictionary catalogue (ibid : 64).

#### 4.6.3

##### BOOK CATALOGUES AND BOOK GUIDES

#### 4.6.3.1

##### BOOK CATALOGUES

A school resource centre may have book catalogues for the non-print material. These catalogues may be arranged by the Dewey classification number or by the type of material, in alphabetical sequence. Multiple copies, issued to subject heads and disseminated in the staff room and resource areas, may prove more convenient for reference and browsing than using a card catalogue - but not replacing it - and provide an additional means of locating resource materials.

#### 4.6.3.2

##### BOOK GUIDES

Book guides, formulated by the teacher-librarian, are a useful way of introducing new pupils to the resource centre (see 7.2.1.2.2). Information on the types of material available, the classification system used and how to take

out resource materials and book the equipment could be included.

#### 4.6.4

#### CO-ORDINATE INDEXING

All resource materials must have an accession number for this system to operate. The key to the system is a prepared features list, based on information which it is hoped can be extracted from the index in the end.

Major types of feature listed would include:

- Physical form (book, disk).
- Location (resource centre, science laboratory).
- Treatment (documentary, humour).
- Age-group (first-year, matriculation pupils).
- Date of subject (15th century Pre-historic).
- Place of subject (Africa, Iceland, planets).
- Topics (youth, drugs, pollution).

(Beswick, 1972 : 51)

One or more cards is provided for each feature heading. Each item is indexed by using the features list and underlining headings relevant to the item content. As many as ten features may be identified. Cards for those features are withdrawn and the item's accession number is punched on

the card. An additional card is produced for each item, containing detailed information and location, and is filed in accession order. Optical coincidence punched cards containing 5 - 10 000 numbered squares are used for this process.

An enquirer seeking information on addiction in Africa would take the relevant cards, align them, and if light is seen through the punched holes, those accession numbers indicate the items with those features. The accessions file would then have to be consulted for the description of the item and its location.

This system is used in some resource centres in the United Kingdom for the retrieval of non-print items. The advantages of the system are the detailed indexing, which provides great specificity, and the speed with which accessions are made. The disadvantages are that books cannot easily be accommodated in the system, holes may be punched in error and the bulkiness of an extensive features list.

#### 4.6.5

#### BOOK BLOCKS, SHELF GUIDES AND POSTERS

Book-size wooden blocks, with the subject and classification number on the spine, are inserted in the appropriate place

on the bookshelves. These blocks serve as subject indicators when users are browsing in the resource centre. Shelf guides provide similar information. The guide may be attached to the shelf or be separate and be made of metal or plastic. Horizontal lettering ensures clear subject identification. It is preferable that the guides are moveable for rearrangement of the collection.

Posters may be made indicating the main classes of the Dewey Decimal System and the workings of the card catalogue. A clear explanation of the latter will obviate the need for continual explanation by the teacher-librarian.

#### 4.6.6

##### COMPUTERISED RETRIEVAL

There are two areas where the computer could provide a useful service, one in accessioning new materials and the other in calling-up information.

#### 4.6.6.1

##### ADMINISTRATION

As a resource centre acquires a large collection of materials it may be cost-effective to computerise, particularly as accessions and withdrawals can be completed more quickly. The computer capabilities of rapid retrieval,

information selection and subject listing, may result in improved service to users.

#### 4.6.6.2

##### USER-ORIENTED

There are two computer retrieval systems in current use, dial access and remote access. These are likely to be available only in large resource centres which merit their use as a consequence of their considerable pupil numbers and extensive range of resources:

With dial access the computer enables users to have immediate access to print, aural and visual materials through the facilities of their carrels. Remote access systems perform in less sophisticated but effective ways. A central area responds to user requests made usually by telephone or an intercom system, and the tape, film, or filmstrip operated in the central area is heard or seen in the carrel (A L A, 1975 : 53).

#### 4.6.7

##### AUDIO-VISUAL PROGRAMS

An audio-cassette explaining the classification system, and another the card catalogue, may be beneficial for the user by increasing independence and confidence. A tape-slide program on the resource centre could serve as an introduction to information retrieval techniques. Such presentations could be heard and viewed in the resource centre with the use of headphones. A video program on the

resource centre, devised by the pupils themselves, would be a valuable learning experience as well as an informational one for the viewers.

#### 4.6.8

#### MICROFORMS : MICROFILM, MICROCARD AND MICROFICHE

Microforms enable a wealth of original, and perhaps bulky materials, such as newspapers, to be stored in an easily accessible form by means of micro-readers.

Microforms are important sources for primary source materials, back issues of periodicals, and government documents (A L A, 1975 : 72).

Where microforms are available the relevant readers are required to peruse these. Two microform readers are regarded as the normal requirement (ibid). Such materials and equipment are available in some schools in the United States, but no references have been noted of their use in secondary education in the United Kingdom or South Africa.

Extensive use of computer access and microforms may be relevant in resource centres that attempt to provide service for schools of 3 300 students, when individualised instruction is the ultimate goal (Vermeulen, 1968 : 121). The resource centre of the above school included five full-time qualified personnel, six part-time aides, three full-time and two half-time clerical secretaries.

Information retrieval techniques can only be justified by their satisfying the needs of the users as efficiently as possible, as pointed out by the American Library Association (1975 : 49):

The test of any delivery system is how well it provides convenient, flexible, and speedy access to all media.

#### 4.7

#### CIRCULATION CONTROL

##### 4.7.1

#### ISSUE OF RESOURCE MATERIALS

The circulation or issue desk needs to be situated at the entrance of the resource centre for the issue and discharge of materials. If a card system is used the card is signed by the borrower and the return date stamped on the item and on the card. It is preferable if an 'honour system' can be introduced whereby the pupil is responsible for issuing his own materials, in order to develop trustworthiness and independence. The cards are collated at the end of the day to calculate daily issues of book and non-book materials. Issue statistics may be kept on a weekly or monthly basis and are important for motivating budget requirements.

Where hardware items have to be distributed from an audio-visual workroom or strong room an identity tag system is a

means of keeping track of the equipment which may be utilised in widely dispersed areas of the school.

As has been mentioned elsewhere (see 4.3.3.3) security of the equipment must be given considerable attention.

#### 4.7.2

#### DISCHARGE OF RESOURCE MATERIALS

Non-book items discharged at the issue desk must be carefully checked, especially slide sets and cassette boxes, to ensure complete and correct contents. The cards, arranged in date order, may be easily identified and returned to the relevant items. A trolley to contain the discharged materials, arranged numerically for distribution to the shelves, should be available near the issue desk. Items returned made when the resource centre is closed can be accommodated in a return box to avoid overdues.

When the hardware is returned it should be checked, particularly for separate items such as lenses, slide trays, remote control attachments and extension cords, and returned to the storage area with its relevant identity tag.

## 4.7.3

LOAN PERIOD

The aim of the collection is maximum utilisation of the resources, bearing in mind the amount of stock and the number of users. Two weeks is regarded as a reasonable period of time for the loan of books and non-book items. Teachers may require extended loan periods of up to one term, for materials which are constantly used by them. Duplication of such materials may be necessary if required by other users. The loan of equipment is restricted only by the number of machines and the security of the area in which it is to be retained. Advanced booking procedures may be called for to ensure availability of equipment when required, and for audio-visual or lecture rooms, when these resource areas are in demand.

## 4.7.4

FINES

There are differing views on the imposition of fines for overdue materials. On the one hand, fines may restrict use of the resources, but on the other, may help in fostering a responsible attitude, particularly if independence is to be encouraged. A resource centre should evaluate the situation carefully but is likely to be influenced by the quantity of

resource materials available for the number of users, the demands made on these resources and the extent of losses.

#### 4.7.5 STOCK LOSSES

Loss of materials is inevitable where resources are provided on open shelves with unrestricted access to books, periodicals, audio- and video- cassettes and there is no security system in operation. Provision should be made for annual losses, but these should be kept to a minimum with a constant check on overdue materials and items likely to go 'missing' because of their interesting content, monetary value or project usefulness. An annual stocktaking is a necessary procedure to determine stock losses and provide justification for continued financial support.

#### 4.7.6

##### CLOSED AND OPEN ACCESS

Maximum utilisation of all resources would seem to imply open access to all materials and equipment and may contain hidden benefits for the user:

Access to a variety of materials gives the user opportunity to grow in ability to make choices, compare ideas and discover new interests (A L A, 1975 : 48).

Open access is the ideal but financial considerations are also pertinent and relatively expensive items, such as video-

cassettes and commercial slide sets, may have to be restricted to school use only. Project materials, completed by the pupils and gifted to the resource centre, may have to be stored in the resource centre office, for viewing on request, to avoid plagiarism. 'Teaching' transparencies used in specific syllabus areas may have to be restricted to teacher use, to ensure availability on demand. Expensive and specialised materials may have to be assessed with regard to their specific or general use, and the degree to which they should be made available to users.

#### 4.8

#### INTEGRATION WITH THE CURRICULUM

The key assumption in the creation of a school resource centre, with a variety of materials in multiple formats, is their use by teachers and pupils in teaching and learning. The school's aims and objectives are central to the resource centre policies of media selection, provision and service. The emphasis given to 'teaching' or 'learning' by the school philosophy and by individual teachers in the classroom, will determine the use of resources. If the passing of external examinations by pupils is one of the teaching objectives, then resources may be considered peripheral, particularly when set syllabi have to be completed within time parameters (Evans, 1975 : 45; Gibson, 1981 : 68).

## 4.8.1

INTEGRATION WITH TEACHING

The integration of resource materials into the teaching program pre-supposes that the teacher has previewed the materials for content suitability and age level; that there is active pupil involvement, in written or oral format; and that the planned objectives are being met.

Hayter (1974 : 15), in analysing the use of school broadcasts, comments on the fact that teachers continually emphasised the importance of carefully planned preparation and follow-up for successful use of such broadcasts for 'Only when teachers are fully conversant with the contents of a series can they consider incorporating it into a scheme of work and exploiting it fully' (ibid : 16).

## 4.8.2

INTEGRATION WITH LEARNING

The integration of resources into the learning program pre-supposes the teacher's acceptance of individualised, and ultimately, independent learning. The teacher's role becomes one of organising learning environments suited to the individual needs of the pupil, by utilising all the resources available. Holder (1975 : 87) describes the re-thinking of teaching strategies and teacher involvement, in

the initiating of a resource centre at Codsall School to pursue the objective of individualised learning.

Teacher secondment to the resource centre, for short in-service courses on production of teaching materials, generated discussion on teaching and learning, which resulted in a variety of teaching styles being adopted (ibid : 95).

#### 4.8.3

#### RESOURCE CENTRE AND INTEGRATION

The resource centre should be considered the hub of all teaching and learning activities within the school. It serves a key role in providing assistance to all users, both teachers and pupils, and has an integrative function to perform in ensuring the relevance and worth of the resources in its collection. The guidance it offers should be supportive of curricula aims and objectives, and the development of critical judgement, in the utilisation of resources, is accepted as a relevant function.

Pretorius (1977 : 6) sees resource centre integration in a narrower perspective as a reading programme to master reading-comprehension skills. The importance of these skills is acknowledged, but it is suggested that they are principally the domain of English teachers but should be the

concern of all teachers. Critical perceptions can only be attained where pupils gain their discernment from all teaching strategies.

The resource centre has a wider role to play in integration with the teaching and learning program by ensuring that a sufficient quantity of materials is on hand: by informing users of what is available in the centre itself and from outside sources: by involving users in selection, evaluation and acquisition of new materials: and by 'in-service' courses to develop competency skills in handling equipment and producing resources.

#### 4.9

#### GUIDANCE AND INSTRUCTION

No guidance or instruction is possible without the users to guide and instruct and so user attitudes are vital to the receptivity or rejection of the resource centre (Like, 1973 : 34). Teachers have commented that lack of time and examination pressure have precluded their utilising resources more extensively (Thornbury, 1979 : 80). The teacher-librarian plays a crucial role in teacher use of the resource centre by involving teachers in selection and evaluation, to which Carroll testifies when she states that 'Involvement of teachers in the selection of new materials

was found to be a successful base from which a much wider use of media by teachers evolved' (1981 : 130) . ✓

The teacher-librarian further motivates his colleagues to use the resource centre by assisting them in planning their course work, particularly in relation to resource materials (Blair, 1981 : 130); and by communicating effectively through listening as well as talking (Sullivan, 1981 : 122). ✓  
Informal conversation with teachers has been identified as an important factor in influencing teacher use of the resource centre (Blair, 1981 : 135). ✓

The teacher's cultural background and attitude to the resource centre influence the attitude of his pupils. Where the teacher is respected and liked, and has a caring attitude and empathic understanding, he will be able to influence his pupils in the use of resources (Blazek, 1975 : 132; Rogers, 1969 : 126). -

Personal experience of the researcher has revealed that some teachers fear the technology and will not use it, while others do not know how to retrieve information (see 7) and are afraid to be shown to be ignorant. Added to this is the fear of inadequacy when confronted by their pupils' confidence in using technology. Such fears create barriers to use which can only be overcome by tact, understanding and guidance. ✓

## 4.9.1

GUIDANCE

A key function of the resource centre is guidance (L A, 1977 : 10). It is only by guidance in information retrieval techniques that the users' needs will be met and the resource centre's facilities be used to best advantage. Guidance may also include the use of reference materials; the promotion of leisure reading; advice on note-taking and note-making; the development of study skills; the presentation of assignments and projects; the answering of queries and the suggesting of alternative approaches.

## 4.9.2

INSTRUCTION

To ensure utilisation of equipment teachers and pupils need to be trained in its use. 'In-service' workshops on the use of equipment, subject-resources integration and the production of materials, should be conducted for both teachers and pupils.

4.10

FINANCE

The financial commitment of a school to the development of its resource centre will be dependent on some or all of the following:

- (1) The principal's conception of the role of the resource centre in upholding the aims and objectives of the school (see 4.3.3).
- (2) The support of the teachers and pupils in utilising the resource centre for the achievement of those aims and objectives.
- (3) The number of pupils and teachers within the institution.
- (4) The adequacy of the present facilities to meet present needs.
- (5) The teaching and learning strategies within the school.
- (6) The initial support given by outside agencies in providing equipment and resource materials, and expected future provision.
- (7) A back-up service to repair and maintain the equipment provided.
- (8) The finance available to service the total needs of the school.

## 4.10.1

ANNUAL BUDGET

An annual allocation of finance is an essential prerequisite for resource centre continuance and development.

Replacement of resource materials through damage, loss or theft is an on-going charge against resource centre funds. Maintenance and repair of equipment will require a certain amount of finance as well as administrative necessities such as stationery.

Teacher requests for recorded materials will necessitate the purchase of blank audio- and video- cassettes and floppy disks for the computer. Film, slide mounts and plastic slide wallets are other items which are likely to be needed.

The budgeting requirements for the year, including print and non-print materials, and the capital expenditure for hardware should be drawn up by the teacher-librarian or resource centre director and submitted to the principal and finance committee for due consideration. ) ✓

The annual allocation should take into account the growth and development of the resource centre to meet user needs in and outside the classroom. The Library Association guidelines emphasise the need for the resource centre to

respond quickly to user requirements and be in a financial position to do so (L A, 1977 : 44).

The existence of a resource centre implies capital expenditure in ever-increasing amounts as its services expand and technological advances create the need for updating equipment. Rising costs of all resources will require a careful program of priorities, established by a resource centre committee conversant with user needs, present and future, to achieve optimal use of resources in attaining learning objectives.

#### 4.11

#### SUPPORT SERVICES

If resource centres are to be effective within the school in fostering independence and individualised learning, support services are essential, especially in providing, duplicating or loaning, resources the Library Association rightly states that 'No school can be wholly self-sufficient in its provision of learning and teaching resources' (1977 : 34).

Support services are required to assist the school resource centre in expanding its stock, either by loan, or in provision of services that are too costly to implement at school level. These may be organised at local, district, regional or county and state level. Local agencies may be

teachers' centres or educational technology centres, libraries and museums.

#### 4.11.1

##### TEACHERS' CENTRES

Teachers' centres provide a meeting place for teachers to attend in-service workshops on materials production or equipment use; to view exhibits of resource materials and to attend lectures on subject specialisms.

#### 4.11.2

##### EDUCATIONAL TECHNOLOGY CENTRES

The duplication of slides, audio- and video- cassettes; the preview and recommendation of equipment for purchase; the conducting of in-service courses; and the provision of resources guides may be some of the support services offered by such centres.

Tape-slide and sound productions, and computer and video programs may be duplicated and distributed to schools on a permanent, or loan, basis. Multiple-cassette duplicating facilities, poster-lettering, transfer or stencil equipment, and recording studio facilities may also be available on request.

## 4.11.3

MUSEUM SERVICE

Cased exhibits may be distributed to schools and a program of lessons linked to the exhibits and displays may be conducted in the museum itself. Other facilities offered may include a planetarium and regular film or tape-slide programs related to school curricula.

## 4.11.4

SCHOOL LIBRARY SERVICE

In the United Kingdom the School Library Service provides the following functions: a resources lending library; information on resource materials and the central classification, cataloguing and processing of those materials, if purchased through the school library service (L A, 1977 : 35).

## 4.11.5

EDUCATION LIBRARY SERVICE

In the South African context education libraries are provided to meet the professional needs of teachers. The libraries are predominantly book collections, but non-print resources are increasing and may be borrowed, free of charge by teachers, for classroom purposes or to further their

studies. An additional support service is that of the 'model' library which will be described in what follows.

#### 4.11.6

##### 'MODEL LIBRARY' SERVICE

The 'model library' displays resource materials which are recommended in the book guides supplied to schools (see 3.4.1). From these lists resources may be purchased, based on a departmental monetary allocation. Teacher-librarians may therefore preview the items before purchase.

#### 4.11.7

##### DISTRICT MEDIA SERVICE

In the United States the school media program is given support by the district media service, whose functions include producing resource materials; developing selection criteria for software and hardware; maintaining production facilities; equipment repair and maintenance and promoting and distributing the district collection of materials and equipment. It also 'has the responsibility of seeing that school programs develop to their potential' (A L A, 1975 : 12).

## 4.11.8

REGIONAL MEDIA SERVICE

The regional service may be synonymous with the district service or be wider in scope and may include processing of materials; producing radio and television programs; providing instruction on computers and initiating staff development programs (A L A, 1975 : 16).

In the United Kingdom an example of a regional service is that provided by the Media Resources Centre in Surrey, established in 1946, which offers (a) an equipment service, (b) audio-visual library and (c) a production service to 700 schools and colleges.

(a) EQUIPMENT SERVICE

Extensive workshops repair and maintain equipment, with loan equipment being provided when repairs are required to school equipment. Minor repairs are done 'on-site' by a field engineer.

(b) AUDIO-VISUAL LIBRARY

A wide range of resource materials is available for loan to schools and includes video-cassettes and computer programs.

(c) PRODUCTION SERVICE

Video and tape-slide productions are done in the school by a three-man crew. Print materials are produced with the services of a graphic artist (Turner, 1983 : 98).

4.11.9

STATE MEDIA SERVICE

The overall responsibility for the development of school media programs in the United States lies with the state board of education, which ensures that policies are implemented and resources made available for media program development. Planning state television programs and networks would be one of its responsibilities.

4.11.10

NETWORKS

A recent concept in the processing of information is that of networking which is defined by the A L A (1975 : 19) as 'a system for providing access to data bases'. Access to national and international information sources are possible where a network is in operation. The interlinking of school, district, region and state media services, by means

of computer data bases, will provide wide coverage of information sources for the rapid retrieval of information.

The support services indicated reveal the commitment to expanding the school resource centre provision of materials and equipment, by offering video, film and television production facilities and block loans of resources, for extended periods. The school resource centre is able to offer unique services to its users where such back-up is provided. To the extent that the services themselves are efficient and are supplied quickly when requested, the image of the resource centre may be enhanced, leading to a greater interest in, and utilisation of, its facilities.

#### 4.11.11

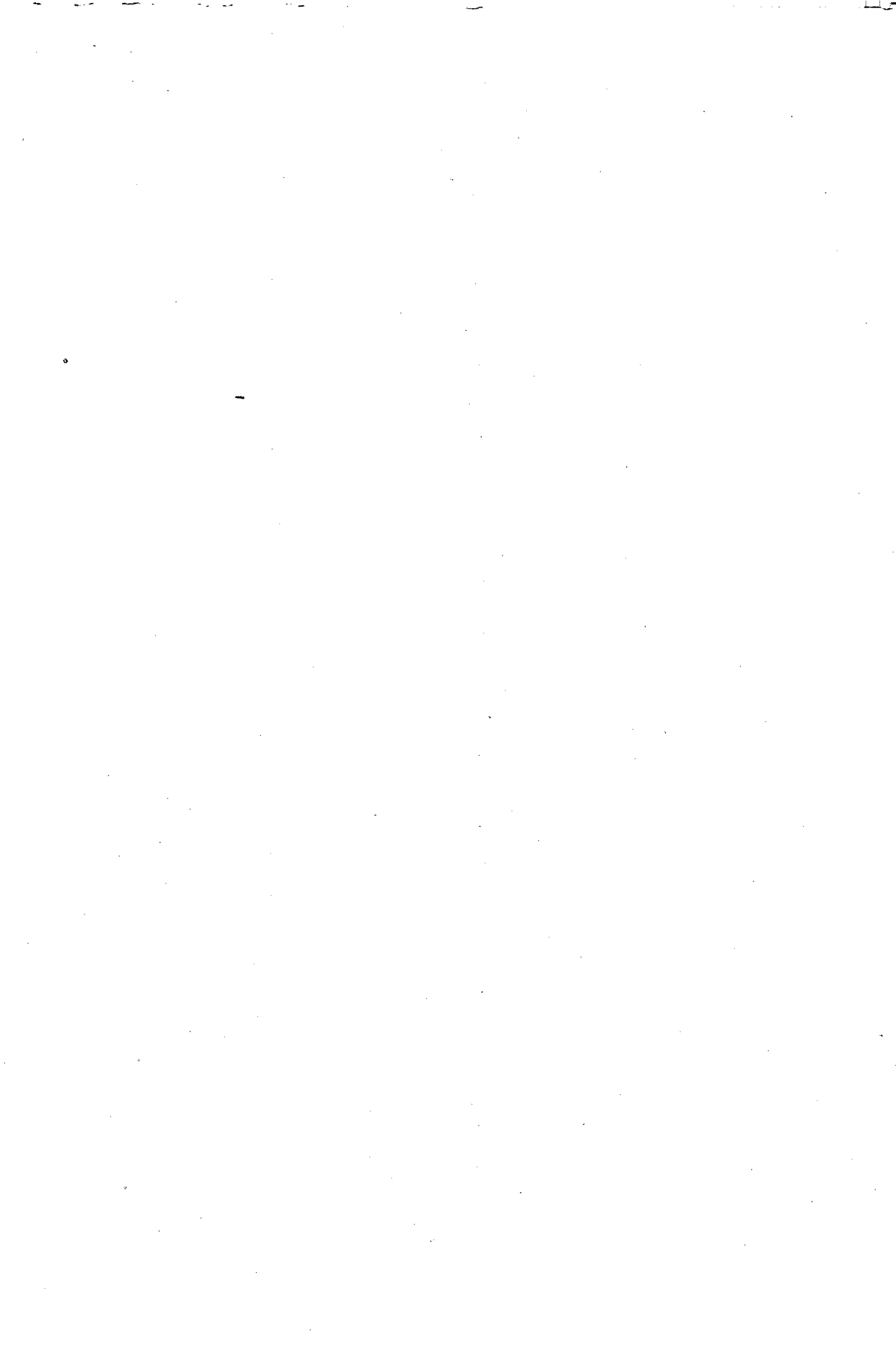
#### MEDIA RESOURCES OFFICER (M R O)

In the United Kingdom media resources officers have been appointed to schools to provide guidance in resource centre development; record 'off-air' television and radio broadcasts; devise and produce educational materials and run 'in-service' courses for teachers in the production of resource materials and the use of equipment (Tindall, 1976 : 47-48).

4.11.12

RESOURCES SUPPORT GROUP

To initiate resource centres in schools a Resources Support Group has been set up by the Inner London Education Authority. The group comprises ten people, librarians, media resources officers, technicians and clerical assistants. Where a school has a basic library, some equipment available and a commitment to resource centre development, the group will spend a week in the school. During this period they will process and produce materials; re-organise the library; fit custom-built furniture; discuss with teachers and pupils the making of resources and provide instruction on the use of the equipment (Tindall, 1976 : 61-66).



SECTION C - EMPIRICAL STUDY CONDUCTED IN  
TWO SECONDARY SCHOOLS IN NATAL

CHAPTER 5

RESEARCH APPROACH, DESIGN AND EXECUTION

5.1

METHODOLOGY

As stated previously the empirical investigation was conducted in Natal for the reasons stipulated (see 1.1). The nature of the investigation, involving teacher and pupil attitudes to the resource centre, as determined by the use of facilities, equipment and resources, implied an inventorial approach to data collection, and hence the use of questionnaires. Information had to be sought from pupils, teachers and teacher-librarians, requiring the construction of questionnaires for three different target populations. It was assumed also that the post of 'head' of resources might exist, with the person concerned having overall responsibility for the resource centre, but principally involved in teaching and administration. Such was the case in School B (see 7.3.1.4.1) and in this instance the teacher-librarian and the 'director' completed separate questionnaires as requested in the instructions.

## 5.2

QUESTIONNAIRE DESIGN

The principal feature in constructing these questionnaires was the interrelatedness necessary to substantiate the authenticity of the responses to the use of the resource centre by teachers and pupils, and the confirmation of this by issue statistics supplied by the teacher-librarian. It was intended that the pupils' questionnaires be administered by the researcher to ensure a 100% response, to avoid bias and to provide an explanation of the specialised terminology used, such as microforms and multi-media kits (Oppenheim, 1966 : 36). The teachers' questionnaires would parallel those of the pupils', wherever possible and so provide an internal check, for example, with reference to the software produced, and submitted, for projects or assignments. At the same time it was hoped that the attitudes of teachers and pupils to the resource centre would be revealed. The particular significance of the teacher-librarians' questionnaire was to obtain accurate statistical data relating to the use or non-use of resources, both hardware and software to serve as a basis against which statements made by teachers and pupils could be evaluated.

## 5.2.1

QUESTION SEQUENCE

## 5.2.1.1

PUPILS' QUESTIONNAIRE [1]. (SEE APPENDIX 9)

The sequence of the questions followed a logical progression from the use of the resource centre; with regard to the frequency and time pattern of pupils' visits, to their reasons for going there, to details concerning projects or assignments which would normally be complementary with its use. As the questionnaire was administered by the researcher the following of the question sequence by the pupils could be monitored to ensure the logical continuity inherent in the questionnaire design. More detailed questions concerning the software and hardware were then asked, clearly distinguishing between the use of the resources and those which had been made by the pupils themselves. Finally, rating questions were included concerning the facilities of the centre and the service provided linked to questions on the 'value' of the resource centre and the helpfulness of its staff. A ranked question concerning the functions of the resource centre was included and the final question was an open-ended one with regard to suggestions for improvement which the pupil might wish to offer.

The initial three questions, on the subject of reading, were intended to be 'user-friendly', to elicit a positive response, and to serve as an introduction to the questionnaire and to the resource centre per se, as it was assumed that most pupils were likely to go there and take out a book for 'leisure reading'. The emphasis was on recreational reading, as a means of determining how many books were read per month per pupil, per standard and per school, as it was assumed that books would comprise the largest part of the resource collection and be most used.

The questionnaire was divided into six sections, viz:

- A. Reading;
- B. Learning;
- C. Resource Centre use and procedures;
- D. Projects and assignments;
- E. Use of materials and equipment;
- F. Service.

#### 5.2.1.1.1

##### READING

The determination of pupils' reading interest and the extent of the use of book materials were seen as reflecting a positive attitude to the resource centre and were considered relevant questions to the study.

## 5.2.1.1.2

LEARNING

The extent to which the resource centre facilitates independent study has been taken as the major justification for its development. Hence an assessment of the pupils' preferred means of learning was considered to be highly pertinent.

## 5.2.1.1.3

RESOURCE CENTRE USE AND PROCEDURES

The reasons for going to the resource centre, what was done there and how often pupils went there, were all relevant questions to be answered in ascertaining the use of the centre. Knowledge of resource centre procedures and guides is essential to information retrieval and when pupils are able to apply such techniques successfully there is motivation for further use.

## 5.2.1.1.4

PROJECTS AND ASSIGNMENTS

In the schools of the Cape Education Department projects in all subject areas, except language, are set each year as a requirement to supplement course work, and are evaluated externally. Such projects are planned in co-operation with

resource centre staff to ensure sufficient materials are available and that overlapping does not occur to further restrict the quantity of resources on hand. The projects, of necessity, increase the use of the centre and its materials, and it is hoped that on completion of the projects the pupils will continue to make use of the resource centre facilities. Questions concerning projects were therefore seen as highly relevant in the context of this research.

#### 5.2.1.1.5

#### USE OF MATERIALS AND EQUIPMENT

With the wide range of software and hardware now available it was important to list sufficient items to cover the field thereby ensuring valid responses. For example, it was anticipated that microforms were not likely to be used much, if at all, but a question relating to their use was none the less included for the sake of full coverage. It was also important, as previously mentioned (see 5.2.1.1) to distinguish between those items which had been borrowed from the resource centre for use in the classroom or the centre's facilities, and those which had been personally made for projects, assignments or orals which would suggest a positive attitude to resources and their use. Similarly, the use of equipment borrowed after school would tend to reflect an interest in resources.

## 5.2.1.1.6

SERVICE

It was assumed that an assessment of the 'value' of the centre, the 'help' received, and the rating of facilities and service, would tend to indicate a positive or negative attitude to the resource centre, and the rating given should reinforce the responses to the questions of 'How valuable?' and 'How helpful?' and hence were important to ascertain.

## 5.2.1.1.7

FUNCTIONS

By including a question on the five most important functions of the centre it was hoped that an indication would be given as to the relative importance of print and non-print materials in the opinion of the users.

## 5.2.1.1.8

SUGGESTED IMPROVEMENTS

The final open-ended question on suggestions for improvement was inserted to assess pupils' attitudes from their freely expressed views which might indicate either satisfaction or dissatisfaction with the resource centre at the school. Open-ended questions were utilised, where relevant, to enable free expression of opinion and the number of

questions was limited to enable the questionnaire to be administered within a school period.

#### 5.2.1.2

#### TEACHERS' QUESTIONNAIRE [2]. (SEE APPENDIX 9)

The questionnaire was divided into four sections viz:

- A. Personal;
- B. Resource centre use and procedures;
- C. Use of materials and equipment;
- D. Attitudes.

#### 5.2.1.2.1

#### PERSONAL

A teacher's experience in education in general, and at a specific school in particular, may be of significance in relation to attitudes towards the resource centre, and especially to projects and assignments. Accordingly such information was sought in the first part of the questionnaire. Of relevance also was the subject specialisation and if taught to both Standards 7 and 9, the standards chosen for the pupils' questionnaire (see 6.3).

## 5.2.1.2.2

RESOURCE CENTRE USE AND PROCEDURES

This section paralleled the pupils' questionnaire in relation to number of visits made to the centre and when. The number of projects or assignments set per term was asked, and in particular whether the resources available were previously determined, the teacher-librarian consulted, and the class taken to the centre and assisted in finding the desired information. These questions were assessed as being indicators of a positive attitude to the resource centre and to answering the needs of the pupils by providing assistance.

## 5.2.1.2.3

USE OF MATERIALS AND EQUIPMENT

The fact that a teacher had made use of a variety of software and the relevant hardware in his/her teaching was deemed to show a positive viewpoint which would be reinforced by any materials that the teacher had produced himself and that he was willing to lend to colleagues.

## 5.2.1.2.4

ATTITUDES

This complete section paralleled the pupils' questionnaire with regard to rating of service and facilities and suggestions for improvement and was regarded as serving a supportive function to the previous responses.

## 5.2.1.3

TEACHER-LIBRARIANS' QUESTIONNAIRE [3]. (SEE APPENDIX 10)

In order to provide a background against which the use of the facilities by teachers and pupils could be determined, a detailed questionnaire, addressed to the teacher-librarian, had to be constructed, which would reveal the quantity of resources available and the terms issues achieved, including the personal comments of the centre personnel relating to problems, their possible solution and future developments. The questionnaire itself comprised seven sections and an Appendix viz:

- A. Personal;
- B. Resource centre personnel;
- C. Facilities;
- D. Services;
- E. Resource centre access;
- F. Communication;
- G. Problems and solutions.

## 5.2.1.3.1

PERSONAL

Details concerning academic and professional qualifications, the number of years experience in secondary education, and as teacher-librarians in their present schools, were pertinent questions asked in this section.

## 5.2.1.3.2

RESOURCE CENTRE PERSONNEL

It was important to determine whether clerical assistants or technicians were employed and the number of these support personnel - particularly with regard to the services offered by the resource centre.

## 5.2.1.3.3

FACILITIES

Resource centre facilities are not always centralised, particularly where there are large departments with financial allocations to develop their own resources, and such devolution has to be determined by relevant questions. The number of ancillary areas for viewing, listening, learning, studying, producing and recording are features which determine the range of facilities and hence the appeal of the centre to its users and must be accounted for in the

questionnaire. As Blair contends 'the collection gains power with good facilities, equipment gets more use, and production increases' (1981 : 137).

#### 5.2.1.3.4

##### SERVICES

The services provided by the teacher-librarian by means of workshops or individual demonstrations on equipment were considered highly relevant to the promotion of the resource centre and its use, for the achievement of competence in using hardware may be a motivating factor for both teachers and pupils. Such workshops and demonstrations are a valuable means of communicating information concerning the resources collection. It is also pertinent to know if the librarian teaches 'resource science' to Standards 6 and 7, and if computer science is also offered as a subject, for both subjects may be determinants of resource centre use, particularly the latter.

#### 5.2.1.3.5

##### RESOURCE CENTRE ACCESS

Fundamental to the maximum use of resources is the accessibility of facilities and equipment, including software and hardware, to teachers and pupils. The teacher-librarian was asked to explain in detail any restrictions

there might be with regard to the utilisation of all facilities, equipment and resources.

#### 5.2.1.3.6

##### COMMUNICATION

It was important to assess the avenues of communication with teachers and pupils to promote the full use of resources and to inform teachers of recent acquisitions.

#### 5.2.1.3.7

##### PROBLEMS AND SOLUTIONS

In this concluding section open-ended questions were formulated on the teacher-librarian's duties, current problems and means to their alleviation, future developments and any further comments which the teacher-librarian wished to make.

#### 5.2.1.3.8

##### APPENDIX TO QUESTIONNAIRE 3

The appendix comprised a detailed list of 25 items of software and 28 items of hardware which the librarian was asked to complete with reference to the number of such items available and the issue statistics for the second term. Such a detailed compilation is time-consuming but it was

stressed that the figures would form the basis for the conclusions to be drawn from the questionnaires answered by teachers and pupils.

This questionnaire of 52 questions was of necessity the lengthiest, and most extensive, particularly in relation to the statistical return, included as an appendix, but the detailed information it was hoped to elicit could not be obtained in any other way.

#### 5.2.2

##### QUESTION TYPES

The nature of the data to be collected necessitated the use of different types of questions to elicit comprehensive responses. These included dichotomous, filter, multiple-choice and open-ended questions.

#### 5.2.2.1

##### DICHOTOMOUS QUESTIONS

In this type of question a direct 'yes' or 'no' answer is all that is required and the respondent answers the next question. It may be of a factual nature or have affective connotations, for example: 'Do you enjoy reading?'

## 5.2.2.2

FILTER QUESTIONS

Where a dichotomous question has been used a filter question may be required as Oppenheim (1966 : 39) indicates: in order 'to exclude a respondent from a particular question sequence if those questions are irrelevant to him'. An instruction is given to answer the next question or proceed to a certain question number which starts the next sequence requiring the pupils' responses. This type of question, if followed by a similar one, leads to greater specificity and is known as a funnel approach (ibid : 38) and has been employed with questions (19-21).

## 5.2.2.3

MULTIPLE-CHOICE QUESTIONS

The respondent in this instance is offered a number of choices from which he may have to select one or more answers depending on the exclusivity or otherwise of that particular question. A feature of the questionnaires in this study was the lengthy multiple-choice items concerning software and hardware, extending to 21, in one particular question. This was unavoidable to ensure an exhaustive list to negate any possibility of losing pertinent information as a result of pupils forgetting various kinds of software or hardware that they had used during the year (Line, 1982 : 58).

## 5.2.2.4

OPEN-ENDED QUESTIONS

Open-ended questions were included to permit the respondent free expression of his views which were restricted only by time and the space provided for the response. Such questions, when detailed, may provide valuable insights, for the spontaneity of the replies is often revealing of the attitudes of the respondents, particularly when the question asked concerns suggestions for improvement. All multiple-choice questions were made open-ended by including an 'other' category to allow the respondent to add an additional item not listed, with an addendum to be specific in his wording.

## 5.2.2.5

RATED QUESTIONS

A five-point rating scale with the extremities identified as Poor = 1 : Excellent = 5, was used to assess the respondents' attitude to the facilities and service offered by the resource centre. Oppenheim (1966 : 84-87) points out the dangers of rating schools and the tendency for the extremes to be avoided but supports their value when a personal impression is being determined in subjective terms.

## 5.2.2.6

RANKED QUESTIONS

The penultimate question, on the five most important functions of the resource centre, was precoded with a list of ten alternatives from which five were to be ranked in descending order of importance. The intention here was to assess the relative significance of print and non-print materials, and of resource science lessons, in the minds of the users. Line (1982 : 53) emphasises the care which must be exercised in utilising special terminology in relation to library research.

## 5.2.3

QUESTION-WORDING

## 5.2.3.1

LANGUAGE

The words used in questions are vital to achieving the 'desired' response by the researcher (Payne, 1951 : 158-176). The mind processes set to work when the respondent reads the questionnaire and considers his response are clearly outlined by Oppenheim (1966 : 50). These barriers to clear communication of a response can be formidable but could be lessened by carefully worded questions. The language level of the survey population should be considered

and simple terms used wherever possible (ibid : 51). Technical terms are to be avoided but those in common usage may be employed (Moser & Kalton, 1972 : 320). In this regard the terms software and hardware were used throughout the questionnaire, but were nevertheless explained when the questionnaire was administered. Similarly the word software within a question was clarified by adding 'such as tapes, slides or transparencies' (Q19). Key words used in the questionnaire were underlined for emphasis and clarity. In question 5 for example:

How often do you visit the Resource Centre in your own free time?

Wherever possible throughout the questionnaire identical phrasing was used and the lists of software and hardware followed a parallel sequence to avoid confusion.

Care should also be taken to ensure that the questions asked are within the frame of experience of the respondents and that they are kept short (Oppenheim, 1966 : 55-56); Babbie, 1973 : 143).

## 5.2.3.2

INSTRUCTIONS

## 5.2.3.2.1

PUPILS' QUESTIONNAIRE

The preamble to this questionnaire outlined the attitudinal objective of the survey and asked for frank comments from the pupils, mentioning the open-ended questions but simultaneously stressing the confidentiality and anonymity of the questionnaire (Babbie, 1973 : 350-51). Following this were four examples of how the responses were to be recorded to facilitate the computerised processing of the data. These examples were completed by the respondents, the researcher re-emphasising the different ways to answer the questions and pointing out the symbol indicating a negative response. The tone of the preamble and the concluding statement: 'Thank you for your co-operation in answering this questionnaire to the best of your ability and I wish you luck in your examinations', were intended to generate a positive response and ensure completion of the questionnaire.

## 5.2.3.2.2

TEACHERS' QUESTIONNAIRE

The preamble to the teachers' questionnaire provided the reason for the questionnaire, the statement of intent and an assurance of the confidentiality and anonymity statements. The instructions given to answer the questionnaire were simple, unambiguous and language-appropriate (Berdie, 1974 : 39), with the main points being underlined. Where multiple choices were permissible this was clarified by indicating Q8 as an example. The researcher's name, school affiliation and provincial designation were indicated on the cover.

## 5.2.3.2.3

TEACHER-LIBRARIANS' QUESTIONNAIRE

The identical wording of the teachers' questionnaire was used but in addition there was an instruction concerning a second staff member in the resource centre for each to complete a questionnaire covering his/her area of responsibility. Because of the extensive nature of the questionnaire a word of gratitude was proposed in advance: 'Your assistance in completing this Questionnaire with regard to statistics and the facilities offered will be greatly appreciated'.

After answering the questionnaire, comprising 53 questions, the teacher-librarian was faced by the statistical return which was attached as an appendix. In anticipation of its completion sincere thanks were expressed, as it was recognised that compiling such information would take longer to determine than the time spent on the questionnaire itself.

#### 5.2.4

#### QUESTION NUMBERING

In order to provide accurate responses for computerisation examples were included and worked through, as previously described (see 5.2.3.2). Dichotomous answers were simple to record, but in other instances the respondent had to insert the number of his answer in the box provided where a single choice was required, and a set of numbers where a wider choice was possible. In the latter case where more than 12 items were listed, parallel numbering was used on the right hand side to ensure correctly aligned responses (Line, 1982 : 67). In addition quantities were also required as responses to such questions beginning 'How many?'. Within each question a numerical sequence was also followed and on the right hand side of the boxes provided for the responses, was the punched-card number sequence for computer analysis.

## 5.2.5

QUESTIONNAIRE LAYOUT

## 5.2.5.1

ARRANGEMENT

A positive attitude towards answering the questionnaire is enhanced by clear presentation, clarity of type face, sectional and question divisions, orderly page arrangement and quality paper (Line, 1967 : 57-58). The questions should be uniformly set out on the page with sufficient space between each question to avoid distortion (Babbie, 1973 : 145). If a series of boxes is utilised for the responses justification of left and right margins will create a neat appearance. A question should not be divided to utilise space at the bottom of a page and this applies particularly in this questionnaire with its inevitable listings, which should be retained as a whole. Likewise, where one question leads to another, both questions should be retained on the same page. The demographic data were incorporated at the beginning of the questionnaire, as such procedures are familiar to pupils and rapport had been established by worked examples. This is contrary to the recommendations of Babbie (1973 : 150) and Oppenheim (1966 : 27), who suggest inclusion at the end of the questionnaire but the reasons given provide the researcher's justification.

## 5.2.5.2

LENGTH AND TIME

The questionnaire had to be completed by the pupils within one school period of approximately 40 minutes. The length of the questionnaire was, therefore, bound by this time restriction and did not allow for further questions which the researcher wished to include. It was assessed from the pilot study (see 5.3) that a questionnaire of some 35 questions could be completed in the stipulated time allowing for the necessary administrative procedures (Line, 1982 : 65).

## 5.3

PILOT STUDY

After construction the questionnaires were submitted for comment to four assessors working in the field and after minor adjustments were prepared for a pilot study. In Moser & Kaltons' opinion (1972 : 49) the pilot study is crucial to the design of the final questionnaire and in particular to its adequacy in eliciting the information sought by the researcher. The importance of replicating the administrative procedures and survey population as envisaged for the full study, is stressed by Line (1982 : 77).

The questionnaires were piloted in a co-educational school having a resource centre with facilities and equipment assumed as similar to those of the sample schools. Thirty questionnaires were administered to Standard 7 and Standard 9 pupils. Four subject teachers' questionnaires, covering English, geography, history and biology, and a teacher-librarian's questionnaire, were duly completed and returned.

When the responses were analysed it was found necessary to rephrase certain questions, define others more specifically and provide more detailed instructions. For example, concerning the use of software and hardware, it was deemed essential to stipulate this as 'either in the classroom or resource centre' and to stress that the books read were 'for leisure reading'. To clarify and emphasise certain questions, words or phrases were underlined. The survey thus conducted justified Moser & Kaltons' (1972 : 51) comment: 'A pilot survey nearly always results in important improvements to the questionnaire'.

#### 5.4

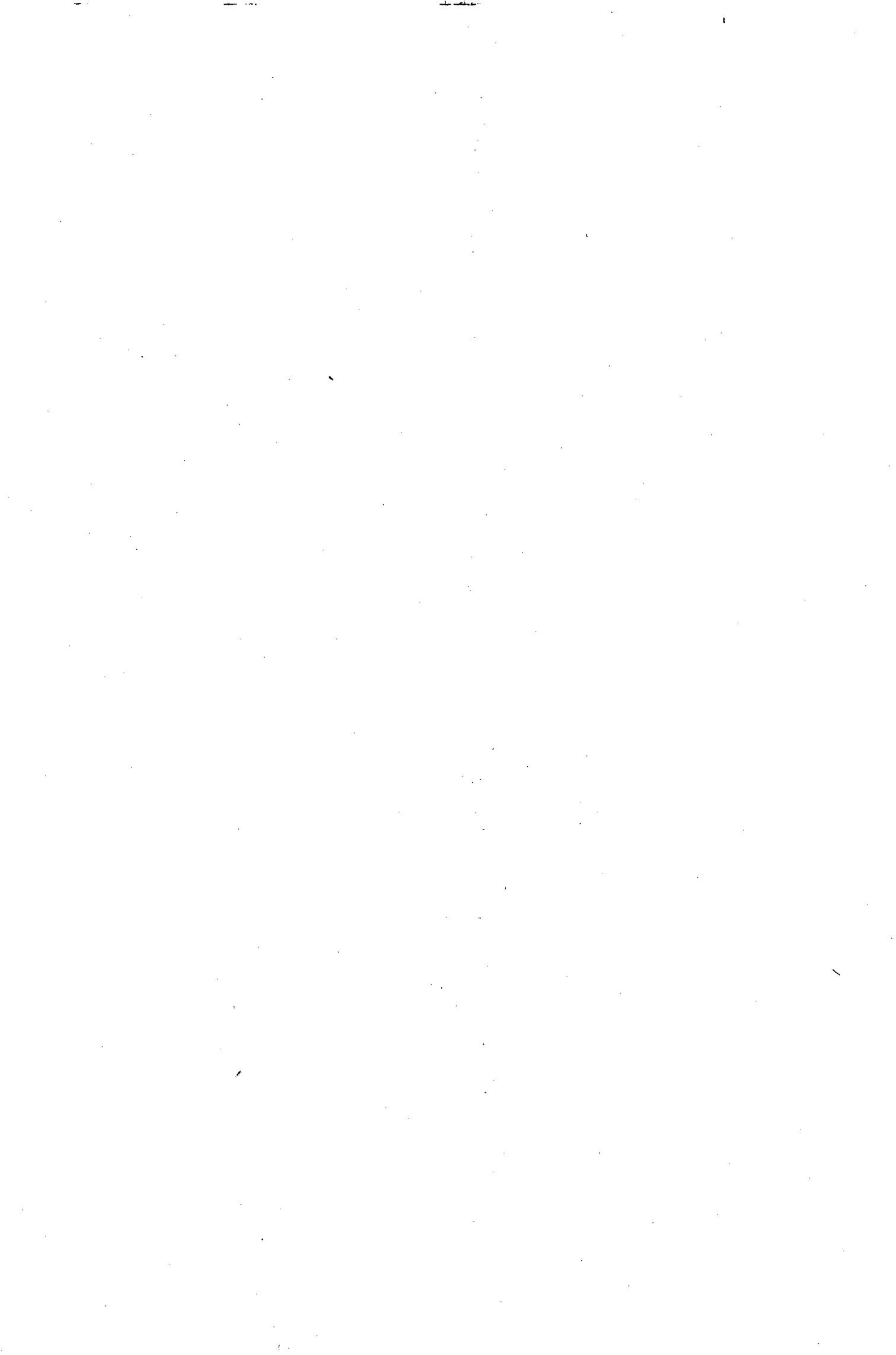
#### EXECUTION

The researcher visited Natal in August 1984 to administer the questionnaires to the pupils, to view the resource centre in each school and to talk extensively with their teacher-librarians. As previously mentioned (see 5.2) the

researcher administered the pupils' questionnaires to provide personal contact (Berdie & Anderson, 1974 : 21), uniformity of approach, clarity of definition and similarity of explanation, if this was required by the researcher's ignorance of conditions prevailing in Natal. The latter proved justified when it was discovered that only one or two projects were completed annually and not termly, as had been anticipated. The four examples on the first page of the questionnaire were read through together and answered by the pupils as a 'warm-up' exercise to clarify the way in which the answers were to be recorded to permit computer analysis. On arrival at School B it was discovered that the number of pupils in each class was fewer than projected and that two classes in each standard would have to be used to provide a sample of 34 pupils in Standard 7 and 40 pupils in Standard 9. This was achieved at some inconvenience to the teachers concerned and their co-operation was appreciated. A total of six hours was spent at the school and the teachers completed their respective questionnaires in their own time and returned them to the researcher before his departure. At School A the questionnaire was administered to one Standard 7 class of 29 girls and one Standard 9 class of 21 girls providing fewer respondents in the latter group than anticipated but it was not possible at that stage to increase the number. The total number of respondents in the survey, by standard and sex, is set out in TABLE 5.

TABLE 5

RESPONDENTS BY STANDARD AND SEX			
	Standard 7	Standard 9	TOTAL
Boys	34	40	74
Girls	29	21	50
TOTAL	63	61	124



CHAPTER 6IDENTIFICATION OF THE RESEARCH SAMPLE

## 6.1

INTRODUCTION

The designated population from which the sample was to be identified was in itself specific, by virtue of the subject, school resource centres, and the selected province in which the research was to be undertaken. These parameters restricted the choice of schools, which was narrowed further in designating a sample population of boys and girls from separate single-sex schools within a prescribed geographical area.

## 6.2

CHOICE OF SCHOOLS

The introduction of resource centres into Natal schools in 1971 (see 3.4.4) had provided a base of 14 years' experience when this study was conducted, by which time certain centres had achieved recognition as leaders in the field as a consequence of their innovative practices. Those schools, therefore, with most experience and renown, and which had been personally visited and recommended, were chosen. The two schools decided upon had distinctive features in that

one was a rural boys boarding school and the other an urban girls day school. Such different elements would provide for points of comparison and contrast, although it was accepted that no two resource centres would be equal in the provision of facilities and resources.

### 6.3

#### CHOICE OF STANDARDS

The fixed dependent variables of sex, school and location were extended to include specific standards and classes within the designated schools. The choice of Standard 7 and Standard 9 as the representative groups from which to choose the respondents was predicated on the fact that the Standard 7 pupils would have had more than one year's experience of the resource centre and have had some acquaintance with its procedures and content. As Thornbury points out:

Resource-based learning along with other applied approaches, such as enquiry-based or discovery learning were mostly found in the first and second years (1979 : 82).

Standard 9 pupils would have had three years' experience of the centre and it was assumed would be more involved with projects, written and oral work requiring the use of resource materials. It was hoped also that the pupils would not yet be so conscious of the matriculation examination that the use of the resource centre might be affected. There was some evidence to support this contention from

research in the United Kingdom: 'There were references by teachers to the compulsion of the present examination system, which it was claimed, inhibited to some degree an extended and experimental use of resources' (Thornbury, 1979 : 65). One Standard 7 and one Standard 9 class from each school were to be identified for the sample, and with an approximate figure of 30 pupils per class, about 120 respondents were anticipated.

#### 6.4

##### CHOICE OF PUPILS

Within each standard it was decided that the third stream in that particular age group be chosen as it was assumed that such pupils might be encouraged to use the resource centre with its variety of materials to meet different needs, whereas the top stream, it was assumed, would be inclined to do so without undue encouragement.

#### 6.5

##### CHOICE OF SUBJECT TEACHERS

The researcher's experience had indicated that there were more materials available in certain subjects than others and that by their content they were more conducive to the use of resources. Subjects such as biology, geography, history and English were more abundantly supplied with resources than

mathematics, metalwork or home economics. This seemed to be confirmed in a major study which found that 'Teachers of English, social studies and science were categorized as major users [of the resource centre]' (Blazek, 1975 : 18). A questionnaire was then prepared for the teachers of these subjects to Standards 7 and 9, giving a total of 8 teachers' questionnaires.

## 6.6

### THE TEACHER-LIBRARIANS

It was only through the teacher-librarians that a clear picture could be obtained of the resource centre itself and the services and facilities it offered. Crucial to the study, as noted previously (see 5.2.1.3.8), was an assessment of use based on the statistics normally kept in government schools to furnish a departmental statistical return.



'A RESOURCES CENTRE IS AN ORGANISM,  
CONSTANTLY DEVELOPING, MODIFYING, CHANGING  
TO MEET THE NEEDS OF THE SCHOOL IT SERVES.'

(Featherstone, 1973 : 3)

CHAPTER 7ANALYSIS OF THE DATA

## 7.1

INTRODUCTION

The pupils' questionnaires were designed for computer analysis of the data by means of punch-cards and a print-out. Unfortunately the punch-card operators had difficulty in picking up the data as not only positive or negative responses were to be recorded. For example, (a) a quantitative answer was required for some questions; (b) in a multiple-choice closed question a numbered response was to be written in the box; (c) in a multiple-choice open question a set of numbers could be written in the boxes. As a result the researcher had to indicate on each of the pupils' questionnaires the eight questions where the actual number had to be punched on the card by the operator. When the cards were punched and processed the computer print-out received contained the data in columns but the figures were too close for accurate visual analysis. The data was then recorded manually as the researcher did not have the computer expertise or the hardware readily available to capture the data for individual question analysis.

The teachers' questionnaires and those of the teacher-librarians', including that of the resource centre director

were analysed manually as was intended because of the limited number.

## 7.1.1

IDENTIFICATION OF QUESTIONNAIRES

In order to refer to the questionnaire responses throughout the analysis of the data an identification number for each of the questionnaires was provided and the number sequence is set out below.

TABLE 6

NUMBER IDENTIFICATION OF PUPILS'  
AND TEACHERS' QUESTIONNAIRES

SCHOOL A		SCHOOL B
	<u>PUPILS</u>	
S7 096-124		001-034
S9 075-095		035-074
SCHOOL A	<u>TEACHERS</u>	SCHOOL B
1000	TEACHER-LIBRARIAN	2000
1001	GEOGRAPHY	2001
1002	ENGLISH	2002
1003	GENERAL SC./BIOLOGY	2003
1004	HISTORY	2004

## 7.2

SCHOOL A

The school designated 'School A' was an urban girls day school with an enrolment of 562 pupils and 35 teachers. Questionnaires were completed by 29 Standard 7 pupils and 21 Standard 9 pupils, a total of 50.

## 7.2.1

FACILITIES OFFERED BY THE RESOURCE CENTRE

## 7.2.1.1

ACCOMMODATION

The resource centre had a seating capacity for 120 pupils which included an audio-visual room adjoining the resource centre. There was a reprographic area in the administrative section of the school, a lecture room and storage area, a library office which served as the production area, 12 study carrels and a dark-room. Despite the latter there were no developing facilities available.

## 7.2.1.2

USER SERVICES

## 7.2.1.2.1

WORKSHOPS

Workshops for teachers and pupils had been provided on such topics as using overhead and slide projectors, audio- and video- cassette recorders, cameras and the production of synchronised tape-slide programs. The making of charts and lettering had also been demonstrated and a talk given on 'How to motivate assignments'. The teachers' responses indicated, however, that no workshops had been held from January-August, 1984 but one teacher had been given a private demonstration on the slide projector and the cassette recorder.

## 7.2.1.2.2

GUIDANCE

Guidance was provided to teachers and pupils by means of annotated book lists and thematic bibliographies. Guidance was also given on the use of the card catalogue and numerous queries were answered. Charts and posters outlining facilities and services were displayed while printed guides were given to the pupils. The English teacher suggested

that 'the librarian should be in the Resource Centre on a permanent basis to provide guidance' (1002 : 30).

#### 7.2.1.2.3

##### DISPLAYS

An outstanding feature of the resource centre was the display created by the teacher-librarian and her pupil library assistants. A display of almost full-sized cardboard figures of Henry VIII and his wives in colourful regalia was on show at the time of the researcher's visit. The geography teacher commented, 'Another beneficial service is that of constantly changing topical displays which provide for different learning needs' (1001 : 30). Other resource materials were displayed under transparent plastic on the centre's tables and a book display of 'pop', 'punk' and 'rock' musicians and singers was set up near the entrance.

#### 7.2.1.2.4

##### LIAISON

The teacher-librarian has informal conversations with teachers in the staff room and meetings with subject departments to discuss their basic needs. It has been found that informal contacts with teachers are more valuable than the formal ones (Thornbury, 1979 : 81).

Teachers were also invited to the resource centre to view displays of new materials and were provided with catalogues of the resources available. When classes were given projects and assignments the teacher-librarian explained how to find the relevant information and she promoted the resource centre during her resource science classes.

#### 7.2.1.2.5

##### ACCESS TO RESOURCE CENTRE

The centre was open before school, two hours per week; 39 hours during school and 3½ hours per week after school. Software and hardware were borrowed by teachers and pupils but no equipment was on overnight loan. Books could be taken out during the holidays. Parents had no access to the resource centre but past pupils often used the resource centre facilities for the purpose of furthering their studies.

Two of the pupils expressed concern at not being allowed to watch videos more often:

'Allow us to watch a video tape at break on anything educational' (102).

'More time to watch videos [and] more freedom in choosing and watching videos' (108).

The pupils' questionnaires indicated no other restrictions on access to resources.

It was evident that the audio-visual room was heavily used with advanced booking and a restriction on the number of periods per subject. The science teacher complained that there was an 'allocation of only a set number of periods per subject per week in the audio-visual room' (1003 : 30). The researcher noted that audio- and video-cassettes were housed in the teacher-librarian's office which would, to a degree, limit 'browsing' and accessibility.

#### 7.2.1.2.6 ISSUE STATISTICS

TABLE 7

#### SOFTWARE ISSUED DURING SECOND TERM 1984

AUDIO-CASSETTES	6 9
VIDEO-CASSETTES	3 1 8
SLIDES & SLIDE SETS	1 2 9 6
TRANSPARENCIES & SETS	5 2 6
PAMPHLETS/BOOKLETS	1 1 7
PICTURES	1 3
MULTI-MEDIA KITS	2 2
RECORDS	5 1
BOOKS	6 7 9 2
JACKDAW KITS	1 3

TABLE 8HARDWARE ISSUED DURING SECOND TERM 1984

AUDIO-CASSETTE RECORDERS	1 4 3
PORTABLE RADIOS	2 3
RECORD PLAYERS	1 9
SLIDE VIEWERS	1 1
TAPE-SLIDE PROJECTORS	1 4
FILM PROJECTORS	4
CAMERAS	4

The teacher-librarian commented that an average of 790 books was taken out per week, giving an average of more than one book per pupil, per week.

## 7.2.1.3

COLLECTION DEVELOPMENT AND DISTRIBUTION

## 7.2.1.3.1

CURRENT RESOURCE CENTRE COLLECTIONTABLE 9SOFTWARE COLLECTION AS AT AUGUST 1984

AUDIO-CASSETTES	3	1	4
VIDEO-CASSETTES	9	8	
SLIDES	5	0	0
SLIDE SETS	9	1	
TRANSPARENCIES	9	8	7
TRANSPARENCY SETS	1	2	
PAMPHLETS/BOOKLETS	9	4	5
PICTURES	1	0	2
PHOTOCOPIES	3	0	0
MODELS			5
GLOBES			3
GAMES	1	4	
MULTI-MEDIA KITS	9	7	
RECORDS	1	4	7
BOOKS	1	2	5
GEOGRAPHY JIGSAW PUZZLES			3
JACKDAW KITS	5	3	

TABLE 10

HARDWARE COLLECTION AS AT AUGUST 1984

TAPE RECORDERS (REEL-TO-REEL)	5
AUDIO-CASSETTE RECORDERS	1 5
VIDEO-CASSETTE RECORDERS	2
PORTABLE RADIOS	3
MUSIC CENTRES	2
RECORD PLAYERS	3
HEADPHONES	4 5
TELEVISION RECEIVERS	2
COMPUTERS	1
COMPUTER PRINTERS	1
SLIDE VIEWERS (HAND-HELD)	3
SLIDE PROJECTORS	7
TAPE-SLIDE PROJECTORS	2
FILM PROJECTORS	2
FILMSTRIP PROJECTORS	3
OVERHEAD PROJECTORS	2 2
CAMERAS 35mm	1
SCREENS - PORTABLE	2
FIXED	4
DAYLIGHT	3
TRANSPARENCY MAKER	1
GESTETNERS	1
PHOTOCOPIERS	2
EPISCOPE	1
PUBLIC ADDRESS SYSTEM	1

## 7.2.1.3.2

PRINT MATERIALS

The teacher-librarian has used magazines to interest pupils in exhibitions and has made box collections of cuttings, under subject headings. Photocopied material has been made into booklets or kept in sets and retained for English oral topics. Much of the print materials, in the form of cuttings, pictures and booklets was used by pupils in the resource centre during lessons, breaks and after school. The book collection of some 13 000 volumes provided an average of more than 20 books per pupil, double the recommended figure (Overduin, 1981 : 4). Despite this considerable collection 22% of the pupils requested more books for the resource centre:

The resource centre must try and have a wider selection of project books that are up-to-date. A wide selection of reading books for the different standards is also needed (078).

To have more up-to-date and modernised books and pamphlets. Books that are relevant to us in this time - 1984 (079).

## 7.2.1.3.3

SOFTWARE

The resource centre had a centralised collection of materials except for globes, charts, maps and aerial photographs which were stored in the geography room. The filmstrips had been cut up to make slides and the films that

were shown in the audio-visual room or the hall, were hired. The camera had been used on four occasions but no photographs were retained for the resource centre, which it is suggested would have been useful for exhibitions and displays. Although projects were completed during the year none were retained either for display or as examples for subsequent years. The geography teacher made the following comments with regard to software:

I suggest that some material be removed ie. specialist material unlikely to be used by anyone else, such as geography transparencies and slides. This would provide much more room for a stock increase of more general material. It would also mean audio-visual material would be used more frequently as specialist teachers would have the material in their own stockrooms, readily available, and would not have to waste time and effort tracking down one or two slides (1001).

This is the argument of the specialist teacher wearing 'subject blinkers', whose narrow view cannot encompass geography resources being utilised in other subjects. The open access to materials which should be the sine qua non of resource centre policy is negated by resources held in departmental stockrooms. The teacher's viewpoint is widely held as the following citation confirms and reveals the strength of 'departmental enclaves':

Most subject teachers wanted reassurance that their curriculum resources were immediately accessible, movement about the school minimized and life given an organizational simplicity by sharing rooms and resources with their departmental colleagues (Thornbury, 1979 : 50).

## 7.2.1.3.4

HARDWARE

A wide range of hardware was available for use by teachers and pupils although the photocopiers and transparency-maker were restricted to teachers, and the computer was used only for school administration. Certain equipment was distributed throughout the school, the overhead projectors in the classrooms and the slide projectors in the laboratories, geography and art rooms. The audio-visual room contained: the episcope, overhead, film and slide projectors, audio- and video-cassette recorders and television sets.

Some pupils (12%) mentioned the need for a computer:

[A] computer is needed and more help in the resource centre (096).

For a better resource centre we can get a computer and a club so that the girls can learn on it (099).

A computer and more books (109).

One respondent saw a video camera as being a useful addition for teachers and pupils:

Get a video camera to tape lessons [to] help teachers and tape real wildlife and maybe allow pupils to use it to do orals etc (089).

There were facilities within the resource centre for the duplication of slides and cassettes but no duplication had

taken place. The photocopier, it was noted, was heavily used by the teachers.

#### 7.2.1.4

#### RESOURCE CENTRE PERSONNEL

##### 7.2.1.4.1

#### TEACHER-LIBRARIAN

The teacher-librarian had been at the school in her present position for 12 years and 21 years in secondary education. Her duties included five hours of teaching art and 21 hours in the resource centre, where she was responsible for teaching resource science to Standards 6 and 7. Her administrative tasks were accessioning books and audio-visual materials including the typing and filing of catalogue cards. She also compiled subject bibliographies and, with the help of her pupil assistant librarians, created displays. There was no clerical assistance available but an unqualified assistant was employed full-time to cover and repair books. The teacher-librarian had many duties and in the opinion of the pupils was overworked as the following indicates:

To have two teachers in charge of the resource centre instead of one so that they have more time to assist people in the resource centre (082).

To improve our resource centre I would suggest that we had more teachers running it, not just one person (092).

## 7.2.1.4.2

PUPIL LIBRARY ASSISTANTS (MONITORS OR PREFECTS)

Pupil library assistants were involved in household procedures such as the issue and discharge of resources and shelving books and were creating displays. The number of assistants was not given in the teacher-librarians' questionnaire, although asked for, but there were complaints from users that there were too few, that they were not sufficiently helpful and perhaps not doing their duties:

The library monitors could help you more in finding a book instead of just saying "look there!" (113).

the prefects on duty to be more helpful (101).

More library prefects are necessary (083).

I suggest the helpers should each have their own section/s of the library to keep neat and tidy and especially to assist people (087).

## 7.2.1.5

TECHNICAL SERVICES

## 7.2.1.5.1

SUBJECT CATALOGUES

A distinctive feature of the resource centre was the detailed card catalogue which had been devised by the teacher-librarian:

It is an excellent idea to provide audio-visual and non-book material catalogues in each subject so that the location of software is much more easily accessible eg. [a] Poetry title and name catalogues; [b] Music composer, form and instrument and time catalogues; [c] Art and time catalogues; [d] Artist's name index and title catalogues; all make for easy retrieval. Time indexes also provide researchers with the ability to link subjects in the liberal arts and so prevent fragmentation of subjects (1000 : 52).

#### 7.2.1.5.2

##### EQUIPMENT REPAIRS

Significantly no mention was made in either the pupils' questionnaires or the teacher-librarians' questionnaire concerning any breakdown of equipment necessitating repairs. It can only be surmised that any breakdowns which did occur were attended to immediately without causing undue concern to the users.

#### 7.2.1.6

##### SPECIFIC PROBLEMS AND DEFICIENCIES

#### 7.2.1.6.1

##### PROBLEMS

The major problem areas highlighted by the teacher-librarian were money and staff. There was not sufficient finance to purchase the resources required.

With the depressed economy it seems there will be no reprieve financially ... There is no aid in the form of library technicians envisaged for the future. Teacher-librarians are actually being taken out of the centre to teach subjects more and more, and I expect this problem to worsen over the next 5 years (1000 : 51).

As mentioned previously additional help was required, particularly secretarial, to type catalogue cards and to file them to ease the administrative overload. Some pupils were concerned about the noise factor in the resource centre and made a plea for quieter areas:

A special area made for those who want to study in quiet (084).

Divide the library into 2 sections: 1. assignment work, 2. leisure reading - so that people reading for pleasure are not disturbed and vice-versa (080).

There should be complete silence, no noise (094).

Interestingly, Thornbury (1979 : 55) noted that in the United Kingdom the trend was moving away from an activity-oriented resource centre to quiet study in the library.

#### 7.2.1.6.2

#### DEFICIENCIES

Several pupils (10%) expressed the wish for a bigger audio-visual room:

It would be nice if our A.V. room was a little larger so that more people would be able to fit in (098).

The teacher-librarian mentioned that a second audio-visual room was being provided and a 'language laboratory' area for teaching Afrikaans to immigrants. One pupil (106) considered that air-conditioning would improve the resource centre and a teacher made the same suggestion, but commented realistically:

None that could be introduced because of staff shortages and very limited finances BUT in our climate air-conditioning would help very much in summer (1004 : 31).

#### 7.2.1.7

#### FUTURE DEVELOPMENTS

The teacher-librarian foresaw more individualised use of the resource centre, particularly by gifted and remedial pupils, but emphasised that teacher co-operation was essential to produce programs for such pupils. It was also envisaged that the computer would play an important role in the retrieval of resources.

#### 7.2.1.8

#### RESEARCHER'S IMPRESSIONS

The teacher-librarian was a dynamic person whose enthusiasm was infectious, making the resource centre a lively environment with much activity taking place. The pupil library assistants were well-organised and arrived promptly for their duties. There was a hive of activity in the

centre and the teacher-librarian was kept fully-occupied answering queries, checking on the art work being done and talking informally with the pupils. It was evident there was an empathy between the teacher-librarian and the pupils, who vied for her attention as they discussed personal matters and out-of-school interests and activities.

Typical of the pupils' reactions to the teacher-librarian and the service she provided was the following comment: 'Mrs ... could not be any more helpful' (117).

The impact of the displays has already been commented upon (see 7.2.1.2.3) and added much to the attractive appearance and welcoming atmosphere of the resource centre.

## 7.2.2

### TEACHERS' RESPONSES TO QUESTIONNAIRE

The teachers' responses to the questionnaire are paraphrased and follow the sequence of questions (see Appendix 9).

#### 7.2.2.1

##### GENERAL SCIENCE AND BIOLOGY TEACHER (1003)

The Standard 9 biology teacher also taught general science to Standard 7 and had had 15 years teaching experience and had been one year at her present school. She visited the

resource centre once a fortnight either at break or during free periods, and did set projects although no indication of the number was given. The teacher-librarian was consulted beforehand and the type and quantity of resources was assessed before the project was set. Classes were not accompanied to the resource centre and no encouragement was given by the teacher concerned to use audio-visual materials. No projects or assignments of such a nature had ever been submitted. Videos and transparencies had been made for her own teaching and these had been loaned to other teachers. Pictures, photographs and audio-cassettes were other resource materials which she had used, while the resource centre staff had been 'very helpful' and the centre itself had been 'of some value'. The quality of service and the facilities available were both given a top rating while the provision of resources of all kinds for teachers and pupils was regarded as the most important function of the resource centre, followed by guidance in its use.

#### 7.2.2.2

##### GEOGRAPHY TEACHER (1001)

The geography teacher had had five years teaching experience and had been three years at her present school. She taught the Standard 7 and Standard 9 girls and used the resource centre three times per week during free periods, break and when she set projects. Only one project per class, per year

was expected and the available resources were checked before the project was set. The teacher-librarian was consulted and the classes were taken to the resource centre where she assisted them in finding relevant materials. The pupils were encouraged to use slides, videos and transparencies and the latter had been submitted with projects as well as models. The teacher had been shown the use of the slide projector and cassette recorder and had produced slides, audio-cassettes, transparencies and models for her own teaching. These items had been loaned to other teachers. A wide range of resources had been used in her teaching including games, records and pictures. In the opinion of this teacher the resource centre had been 'of considerable value' and the staff 'very helpful'. Service and facilities were given a rating of four out of five and the most important functions of the resource centre were considered to be providing resources of all kinds for teachers and pupils, and producing software.

#### 7.2.2.3

##### ENGLISH TEACHER (1002)

The English teacher of Standard 7 had been eight months at the school and had four years teaching experience. She used the resource centre about once a week during her free periods. Two projects were completed per class, per term, after checking what materials were available in the centre.

The teacher-librarian was consulted in advance and when the classes were taken to the resource centre she helped her pupils to find relevant information. As they were encouraged to use audio-cassettes and transparencies, projects with these materials had been submitted as well as videos. The teacher had produced transparencies for her own teaching and had exchanged these with other teachers. Photographs and records had also been used in her teaching as well as the music centre. She had found the resource centre staff 'very helpful', and the centre itself 'of considerable value' for her own teaching, and rated the quality of service and the facilities provided as five out of five. In her opinion the two most important functions of the resource centre were providing resources of all kinds for teachers and pupils and giving reading guidance to the latter.

#### 7.2.2.4

#### HISTORY TEACHER (1004)

The Standard 9 history teacher and Head of Department had been three years at the school and 19 years in teaching. She visited the resource centre every day, either during break, free periods, or after school and when she set projects. One class project per year was done, the teacher-librarian being consulted beforehand and the resources available for the project assessed. Classes were taken to

the resource centre and the history teacher provided any assistance if required. The pupils were encouraged to use a variety of audio-visual materials and had produced assignments with transparencies, slides, audio-cassettes, charts and tape-slide programs. The history teacher had made her own charts and transparencies and had exchanged or loaned these to other teachers. Twelve different resource materials had been used during the year including records, cuttings, pamphlets, models and pupils' projects. The facilities were rated excellent, with the centre being 'of considerable value', and the service was rated three on the five-point scale the staff being regarded as 'moderately helpful'.

The most important function of the resource centre, in the history teacher's assessment, was providing resources of all kinds for teachers and pupils, and classifying and cataloguing all the material acquired. Improving the resource centre was regarded as difficult because of shortage of staff and finance.

#### 7.2.2.5

#### COMPARATIVE ANALYSIS

All teachers had produced and used transparencies in their teaching and all had made use of cassette recorders and overhead projectors. It is interesting to note that the

Curriculum Development Centre in Edinburgh regards the overhead projector as an invaluable and 'much underestimated', teaching aid, particularly in the teaching of English (Gillespie, 1980 : 53). In the present study the English teacher had only produced transparencies while the geography teacher had produced four types of software. Audio- and video-cassettes, slides, pictures, photographs and records were used by three teachers. The teachers loaned or exchanged materials that they had produced.

All four teachers set projects or assignments, not more than two per class, per year, checked what material was available in the resource centre and consulted the teacher-librarian. Only the general science and biology teacher did not take her class to the resource centre and did not encourage the use of audio-visual materials in the projects or assignments she set.

### 7.2.3

#### PUPILS' RESPONSES TO QUESTIONNAIRE

##### 7.2.3.1

#### INTRODUCTION

The responses of the Standard 7 and Standard 9 girls will be considered together but reference will be made to a particular standard if there is something of significance

revealed by the data. The designations S7 and S9 will be used to indicate the girls in Standard 7 or Standard 9. The responses to the questionnaire will be presented according to the sequence of questions.

#### 7.2.3.2

#### GIRLS' QUESTIONNAIRES

The teacher-librarian gave the average weekly issue as 790 books, indicating that more than one book was read per pupil, per week (see 7.2.1.2.6). All the S7 girls borrowed books and read an average of three books per month and the S9 girls two books per month, although 19% of this group did not borrow books from the resource centre for leisure reading.

The questionnaires revealed that 66% of the girls visited the resource centre either once a week (46%) or once a fortnight (20%), indicating low usage of the facilities and materials available by this sample population. The reasons given by the girls for going to the resource centre were 'to take out a book' (94%); 'to work on projects' (72%); and 'to read magazines' (42%); only 10% indicated that they went to the centre 'to use the software'.

Despite the substantial book collection and the low average monthly reading statistics, 22% requested a wider variety of

reading materials covering science fiction, history, current affairs and romance. The following are typical comments made in this regard:

More historical books should be in the resource centre (093).

More books of every type should be available - eg. science fiction (084).

Of the S9 girls 14% commented that they had been given no encouragement to use audio-visual materials in their projects, and as recorded previously the General Science and biology teacher did not do so (see 7.2.2). A significant comment was made by one S9 girl who was of the opinion that teachers should provide 'More encouragement to use audio-visual equipment and other software in projects and orals' (095).

The other three teachers in the sample did encourage their use, checked on the availability of resources, took their classes to the resource centre and assisted them in finding materials relevant to the projects set. These teachers had received a variety of software formats in the projects submitted to them. However, 18% of the respondents asserted that no teacher assistance was given when they were seeking project materials but 14% commented that resource centre staff, including pupil library assistants, had helped them.

Previously, assignments had been handed in by 20% of the girls using software in the form of maps, charts and transparencies.

The software actually made during 1984 included charts, maps, transparencies, photographs, models and slides, 33 items in all. During the year the items of software that were used, either in the classroom or the resource centre, were principally pictures, pamphlets, cuttings, transparencies, videos and slides which were mentioned 157 times. The hardware used by the girls included cassette and video recorders and overhead projectors.

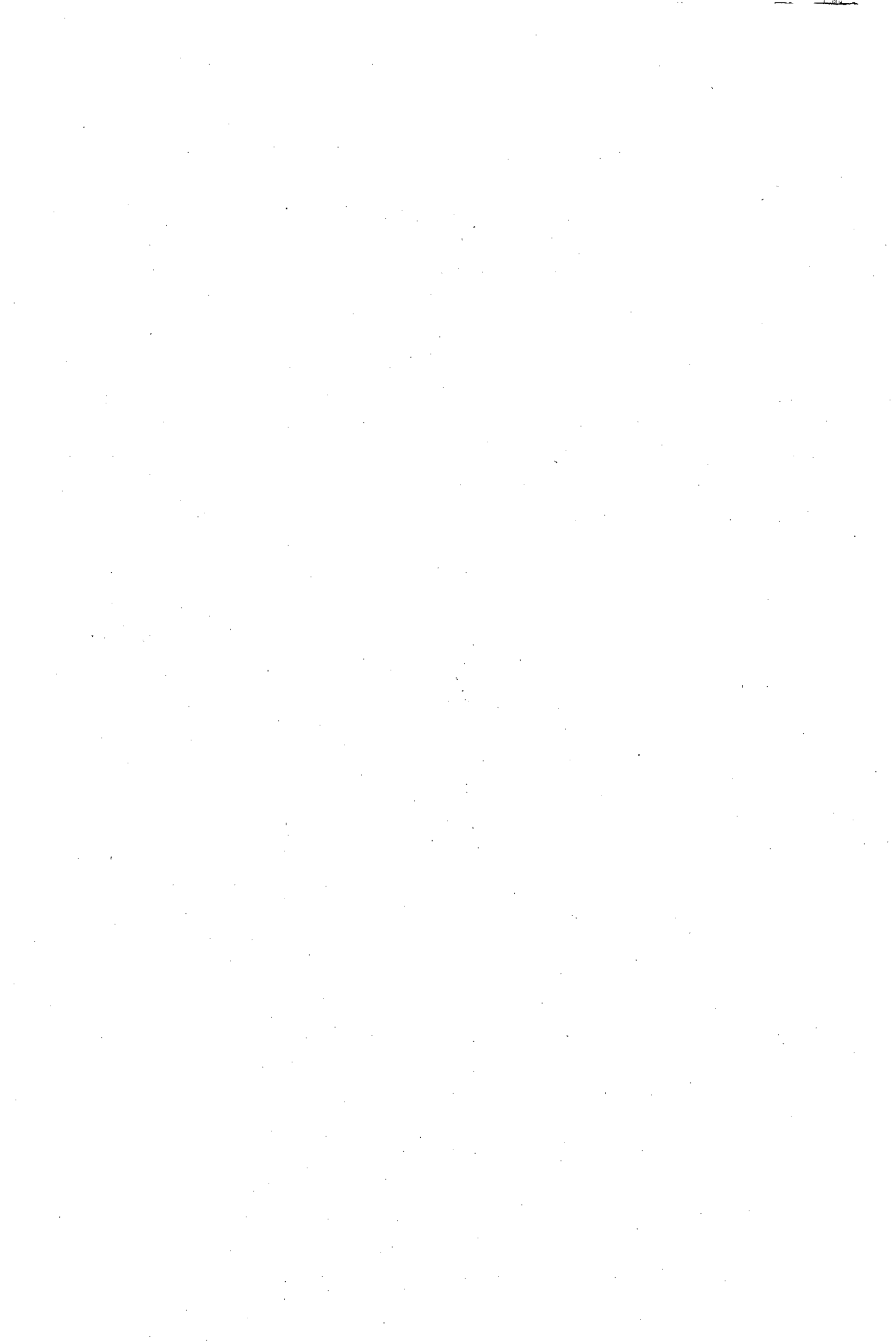
With reference to the facilities of the resource centre 88% of the girls rated them four or five on the five-point scale with only 6% rating them three, the lowest figure given. Overall satisfaction with the resource centre was illustrated by such comments as:

I don't think any improvements need to be made because I feel our resource centre runs very smoothly (091).

We have everything we need (115).

I am very satisfied with our resource centre (085).

I feel that our resource centre is wonderful, and I have no suggestions [for] improving it. I like it as it is (121).



Suggestions that were made for improvement included an additional audio-visual room and the purchase of a computer and a video camera for use by teachers and pupils.

The service provided was given a similar rating, four or five, by 80% of the girls, the other 20% rating the service as a three, which was in accord with the resource centre staff being assessed as 'moderately helpful' (22%). An interesting feature was, that of the S7 girls, 48% in each case rated service and facilities as excellent, and 19% and 33% respectively of the S9 girls rated service and facilities as excellent. The main criticisms, made by 18% of the girls, were insufficient staff and the unhelpfulness of the pupil library assistants (see 7.2.1.4.2).

### 7.3

#### SCHOOL B

The school designated 'School B' was a rural boys boarding school with an enrolment of 468 pupils and 35 teachers.

#### 7.3.1

##### FACILITIES OFFERED BY THE RESOURCE CENTRE

The resource centre had been built specifically for its intended purpose and consequently had unique facilities.

## 7.3.1.1

ACCOMMODATION

With two lecture theatres, the library and a viewing room comprising the resource centre, the seating capacity was approximately 220. In addition there was a reprographic area, a language laboratory, seminar rooms, and an audio-visual production room. A soundproofed recording area, a computer room, dark-room and audio-visual storage room, and a library office, which doubled as a workshop for repairs and typing area, were other facilities provided in this extensive complex. For individualised study there were some 20 carrels, four of which had electrical power. Black-and-white films could be developed in the dark-room and both teachers and pupils used this facility.

## 7.3.1.2

USER SERVICES

## 7.3.1.2.1

WORKSHOPS

Workshops were not provided by the teacher-librarian, but by teachers who were in charge of subject teachers' associations, for example biology and computer studies, for the benefit of colleagues from other schools. These workshops had been concerned with the use of the overhead

projector, the video-cassette recorder, the computer and the making of tape-slide programs.

The director of the resource centre mentioned that a computer familiarisation course for teachers was in progress at that time, one evening per week.

#### 7.3.1.2.2

##### GUIDANCE

A printed guide to the resource centre was issued to pupils and the centre was promoted during resource science lessons and whenever classes were set projects or assignments. There was also a recently up-dated tape-slide program on the resource centre which was available for pupils. Despite this, one pupil indicated there was still a need for further guidance: 'Instruction on the use of all aspects of the resource centre should be given' (065).

#### 7.3.1.2.3

##### LIAISON

The teacher-librarian promoted the use of the resource centre during school staff meetings and consulted teachers in the staff room. Regular meetings were also held in the resource centre and this gave her an opportunity to contact teachers. Telephone calls and notes in lockers were used to

notify teachers of new acquisitions. Departmental meetings were also attended, but the teacher-librarian could not attend the English meetings as they clashed with her teaching timetable. The resource centre director commented that the centre's activities were discussed at Heads of Department meetings but the teacher-librarian was not present at these.

#### 7.3.1.2.4

##### ACCESS

Much of the hardware was permanently installed in the lecture theatres and viewing room. The equipment was available for use by teachers and pupils after checking with the resource centre staff. The software was available on request but was not issued on Sundays. Audio-cassettes were on view in a locked display case and the video-cassettes were kept and issued by the technician from a store room thus restricting accessibility to some extent. The resource centre itself was open for 3 hours per week during school and 22 hours per week after school. Access to the resource centre was a problem for the pupils, as evidenced by the typical following comments, made by 18% of the sample:

I think that the resource centre should be open all the time, especially on Saturday and Sunday and that the hardware and software be more easily available to pupils, like the photostat machine (023).

That we may be able to use more 'hard' and 'soft' ware in the resource centre because lots of the 'hard' and 'soft' ware are only for staff to use (030).

Cut out the problems of getting there during prep time - too many forms have to be signed and it is a problem (039).

It is not very easy to go there when you please (040).

The problem of accessibility in this school, it is surmised, might be due to the fact that the materials were dispersed throughout the resource centre complex and not readily on view, as well as the restrictions imposed by the institution itself. In addition, the retrieval tools may have hindered access as illustrated by the following::

Better key to the catalogue (062).

Better book catalogues to find books (068).

The English teacher also had a significant comment to make with regard to accessability:

Security is important, but locks and keys are the major nuisance factors (2002).

## 7.3.1.2.5

ISSUE STATISTICS

In 'School B' no issue statistics were being kept at the time and consequently the use of the resource centre could only be determined from the responses to the questionnaire, and in particular, the considerable comments made in the open-ended questions. The fact that the video-cassettes were issued separately, by the technician, and that the biology department operated independently (see 7.3.1.3.3) further confused the issue.

## 7.3.1.3

COLLECTION DEVELOPMENT AND DISTRIBUTION

## 7.3.1.3.1

CURRENT RESOURCE CENTRE COLLECTIONTABLE 11SOFTWARE COLLECTION AS AT AUGUST 1984

AUDIO-CASSETTES	2	5	0
VIDEO-CASSETTES	4	0	0
FILMS		4	4
CUTTINGS		8	0
MAPS			1
MULTI-MEDIA KITS		6	0
BOOKS	8	5	0 0
REEL-TO-REEL TAPES		2	0
TAPE-SLIDE PROGRAMS		6	0
SLIDES	5	0	0

TABLE 12HARDWARE COLLECTION AS AT AUGUST 1984

TAPE RECORDERS (REEL-TO-REEL)	3
AUDIO-CASSETTE RECORDERS	8
VIDEO-CASSETTE RECORDERS	6
MUSIC CENTRES	1
RECORD PLAYERS	3
HEADPHONES	6
TELEVISION RECEIVERS	8
MICROCOMPUTERS	6
COMPUTER PRINTERS	2
SLIDE PROJECTORS	3
TAPE-SLIDE PROJECTORS	2
FILM PROJECTORS	2
FILMSTRIP PROJECTORS	2
OVERHEAD PROJECTORS	2 4
CAMERAS - SUPER '8'	1
35mm	1
VIDEO	5
SCREENS - PORTABLE	2
- FIXED	2
LIGHT TABLES	1
TRANSPARENCY MAKERS	1
PHOTOCOPIERS	1
GEOCHRON	1

## 7.3.1.3.2

PRINT MATERIALS

The book collection of some 8 500 volumes is considerably fewer than the figure of 12 500 given for School A, but the latter has an enrolment of 90 more pupils. However, the book ratio to pupil enrolment is 18 : 1 which is still well-above the recommended minimum of 10 books per pupil (Overduin, 1981a : 4). An average of more than three books per month was read by the boys and more reading materials were requested:

More books, better selection (071).

More leisure reading books ... More books on sport and hobbies. A bigger variety of magazines (013).

More Afrikaans reading books (066).

## 7.3.1.3.3

SOFTWARE

The resources collection was basically centralised within the one building but dispersed to different areas, preventing an overview of all materials and ready access. However, the fact that only one map was indicated as available in the resource centre suggested that these items were departmentally-based. Similarly the biology teacher revealed that an extensive range of resources had been made and kept within the department:

Many of the functions of the resource centre ... are handled in the department of Biology itself. We have our own store of hardware and software and books etc. Much of the material is produced by the department because they are familiar with the subject material. It is difficult for the resource centre staff to produce material with which they are not familiar (2003).

No indication was given as to whether these resources were available to pupils, or whether they were duplicated, and available from the resource centre. It is accepted that subject specialists should produce their own resources but they should be made available to all.

No transparencies were available in the resource centre, these being produced and retained by the teachers for their own teaching purposes.

From the pupils' responses to the questionnaire it was evident that videos were popular and that off-air recordings were made for recreational, as well as educational purposes:

Sport should be taped more often but not only rugby and cricket but motor sport too (006).

We should be able to watch T V programmes a bit more often and be allowed to watch any video tapes in the afternoon in our own time, not only educational ones (014).

## 7.3.1.5.4

HARDWARE

Much of the hardware was kept permanently in the two lecture theatres and included television monitors, video-cassette recorders, film, slide and overhead projectors, and built-in stereo systems. Three cameras were set up in the television studio (see 7.3.1.5.1), a facility not mentioned by the director or teacher-librarian, but seen by the researcher.

In the open-ended responses 7% of the pupils complained about outdated equipment and a further 7%, about the poor maintenance of existing equipment. The comments which follow are a selection of the views expressed:

Replace old equipment eg. old T V's that keep playing up (058).

Some of the hardware equipment is getting out of date; I think these items should be renewed: tape recorders, headphones, hi-fi sets (064).

Somebody to make sure that everything is in working order every day and if not to fix it (074).

The resource centre director was in agreement about the need for new equipment:

Some equipment has become obsolescent and is being replaced progressively (2000 : 50).

## 7.3.1.4

RESOURCE CENTRE PERSONNEL

The resource centre staff consisted of the director, the teacher-librarian, two technicians and an unqualified assistant.

## 7.3.1.4.1

DIRECTOR OF RESOURCE CENTRE

The director had been responsible for the resource centre for the past two years, had been a member of staff for 21 years and had had a total of 18 years experience in secondary education. As senior master at the school and teaching history and economics he had many commitments. He was unable to state specifically the number of hours spent in teaching and the number of hours spent in administering the resource centre. The director commented that the centre was used 'considerably' by most teachers but he had difficulty in persuading them to find the time to produce resources. Every term a 'Staff Forum' was held and occasionally one had been devoted to a workshop on resources.

## 7.3.1.4.2

TEACHER-LIBRARIAN

The teacher-librarian had been 16 years at the school and had held her present post for the last 12 years, with a total of 20 years' experience in secondary education. She was responsible for subject teaching, four hours per week, and for teaching resource science to Standard 6 for another four hours. Her other duties included all the clerical and administrative work relating to the resource centre which took up 22 hours per week. This work included typing and filing of catalogue cards and accessioning new books, besides the preparation of cuttings and pamphlets.

## 7.3.1.4.3

QUESTIONNAIRE RESPONSE DISCREPANCIES

In comparing the questionnaires of the director of the resource centre and the teacher-librarian certain discrepancies were revealed. With regard to the facilities available the director mentioned a language laboratory, which was not mentioned by the teacher-librarian, who in turn stipulated that there was a soundproofed recording area, which the director did not indicate. The teacher-librarian commented that there were no colour-film developing facilities and that no photocopying could be done by pupils themselves. In both instances, the director

provides contrary information in his responses to the questionnaire. This lack of consensus may have been due to poor communication; lack of knowledge concerning aspects not in their domain; or different interpretations of different areas of the resource centre. For example, the director claimed that the resource centre was open for seven hours per week during school time, and seven hours per week after school. The teacher-librarian quoted figures of 38 hours during school and 22 hours after school. In this instance the library itself might be open for those hours, whereas the lecture theatres and video-viewing facilities might have restricted times, as indicated by the director.

#### 7.3.1.4.4

#### OTHER RESOURCE CENTRE PERSONNEL

Two technicians were employed in the resource centre. The one was a printer, working full-time in this capacity on an off-set litho machine, and the other was responsible for the issue and storage of video-cassettes and presumably the equipment and its repair, as well as running the television studio; but this could not be confirmed from the responses to the questionnaires. There were a number of criticisms from the pupils concerning the breakdown of equipment (see 7.3.1.3.4), substantiated by the comment that the resource centre needed 'somebody on hand who can fix the equipment' (074).

The teacher-librarian had an unqualified assistant, employed for 40 hours per week in the resource centre, to assist with such housekeeping routines as shelving and covering books.

#### 7.3.1.4.5

#### PUPIL LIBRARY ASSISTANTS

Pupil library assistants were used in the resource centre but received little recognition from the school for their efforts, and the teacher-librarian indicated that previously their use had been actively discouraged. The number of pupils assisting in the resource centre was not given in the completed questionnaire.

#### 7.3.1.5

#### TECHNICAL SERVICES

#### 7.3.1.5.1

#### TELEVISION STUDIO

A remarkable feature of the resource centre complex was the fully-equipped television studio and ancillary control room, with the monochrome cameras on dollies. The recording units were video-cassette recorders with editing facilities. The director revealed in his questionnaire that television production workshops had been given in the past, and the English teacher stated he had attended such a television

course, but there was no confirmation of similar workshops having been conducted prior to the time of the survey. However, one of the pupils commented in his questionnaire that the resource centre could be improved by having 'colour cameras in [the] studio' (004) which might suggest that the television studio was used.

#### 7.3.1.5.2

#### PHOTOCOPYING

According to the director, photocopying could be done by teachers and pupils themselves, but according to the librarian this facility was not available to pupils. It was ascertained that the photocopying was done through the printer and a charge made of 10c per copy. There was some confusion in the pupils' minds as to ease of access with reference to photocopying:

... the hardware and software [should] be more easily available to pupils, like the photostat machine (023).

Photocopying should be made easier (055).

## 7.3.1.6

SPECIFIC PROBLEMS AND DEFICIENCIES

## 7.3.1.6.1

PROBLEMS

The teacher-librarian asserted that her problems were basically the administrative burdens of typing and filing of all catalogue cards, accessioning the resources and attending to correspondence. Consequently the most urgent requirement of the resource centre was clerical assistance. The key importance of such ancillary help is highlighted by Beswick (1975 : 67) when he states that 'We are bound to advise in general that without a sound underpinning of clerical help, many library resource centres will rapidly run into serious problems indeed'.

The teacher-librarian stated that there had been a lack of co-operation from her colleagues with regard to managing their classes in the library and getting them to replace books and magazines, so that she wasted considerable time in tidying up. The teachers regarded the library as a 'pleasant place to mark while [the] class read' and did not give her sufficient warning before bringing classes to the library to do projects.

## 7.3.1.6.2

DEFICIENCIES

As a consequence of her teaching duties and lack of clerical assistance the teacher-librarian indicated that she could not provide as adequate a service as she would have liked. With more 'free' time she would have been able to provide a better reader service, to create more displays and to improve public relations. One respondent concurred with this viewpoint, requesting 'Better service from the librarians' (018).

The pupils' responses revealed what they considered to be particular deficiencies:

We need more carrels for learning and more computers (027).

More places of privacy and quietness (056) (see 7.2.1.6.1).

More leisure books should be provided. Books related to current affairs would be appreciated (055).

More audio-visual hardware and software for individual use (061).

Computers were mentioned as a requirement by 22% of the sample population and books by 20%.

## 7.3.1.7

FUTURE DEVELOPMENTS

The resource centre director commented that he would like to spend more time in production work and hoped to do so in the future but it had not been possible up to that time. As indicated, certain items of hardware were obsolete and were being replaced (see 7.3.1.3.4).

The teacher-librarian was aware of the need for more computers, additional hardware and considerably more resource materials. She also hoped that a better maintenance service could be provided and 'some clerical assistance or a part-time assistant' (2000 B).

## 7.3.1.8

RESEARCHER'S IMPRESSIONS

The resource centre had come into being at a time when it was found necessary to enlarge the library at the school and when interest in educational technology and its educational role had been gaining momentum. The centre, therefore, had been designed as a production, listening, viewing area with expansive facilities geared to future development. The double-storeyed building housed two lecture theatres, a viewing room, printing room, art exhibition room and a television production studio. The library itself was wood-

panelled and reminiscent of an Oxford College library with its 20 individual carrels and separately-lit study desks and was most conducive to learning.

The teacher-librarian was enthusiastic about her job, but felt pressurised because of her teaching load and numerous administrative tasks. The fact that the school had extensive grounds and was spread out over a considerable area meant that the centre was a little distant from certain parts of the school, limiting access to a degree, so that little use was made of the resource centre at breaks, but it was used after school and in the evenings. Activity was not so evident as in School A, partly because of greater afternoon and evening use and partly because of the size of the complex.

### 7.3.2.

#### TEACHERS' RESPONSES TO QUESTIONNAIRE

##### 7.3.2.1

#### BIOLOGY TEACHER (2003)

The biology teacher of Standards 7 and 9 had been teaching at the school for 20 months and had had two years teaching experience. He visited the resource centre three times per week, either during free periods, after school or in the evening. He had used 11 different kinds of resources in his

teaching, including audio, video and computer software, films, slides, transparencies, photographs and models. For his own teaching he had made models and transparencies which he had lent or exchanged with other teachers. Microforms were cited as having been used, but it was noted there were no microform readers in the school. [Explanation: It is possible that the biology teacher had regarded these as items viewed through microscopes, for he had added these to the list of hardware.] A biology project was set each term, per class, and the materials available were assessed beforehand. The classes were not taken to the resource centre, and no encouragement was given to the pupils to produce audio-visual materials in their projects.

No assignments or projects using such materials had been submitted for assessment. The resource centre was acknowledged as being 'of considerable value', the staff 'very helpful', with a rating of four out of five, and the facilities were regarded as excellent. Considerable departmental resources existed and these have been mentioned elsewhere (see 7.3.1.3.3).

## 7.3.2.2

GEOGRAPHY TEACHER (2001)

The geography teacher of the Standard 7 and Standard 9 boys had had 20 years experience in secondary education, nine of which had been at his present school. He had made considerable use of audio-visual materials in his teaching, having employed 13 different types of resources, including photographs and newspaper cuttings. He had produced tape-slide programs, slide sets, audio-cassettes and transparencies for his own use, which he had lent to other teachers. Classes had been taken to the resource centre when his yearly project was set and he had assisted pupils in finding relevant materials. The teacher had regarded it as important to check what resources were available for his intended project but it was not important, in his opinion, to consult the teacher-librarian. The pupils had not been encouraged to use audio-visual materials in their projects and none had done so. The resource centre was viewed as being 'of considerable value' and the staff 'very helpful'. Service and facilities were given a rating of four on the five-point scale.

The geography teacher's attitude might be best conveyed by his own comment concerning the value of the resource centre: 'It is useful in providing visual material and background to the work done in the classroom'.

The provision of resources of all kinds for teachers and pupils and the production of software were regarded as the most important resource centre functions.

There were two inconsistencies noted in the geography teacher's responses to the questionnaire. He had stated that he had produced and used transparencies but no indication of the overhead projector having been used was evident in his responses. Similarly, films had been used in his teaching but no film projector had been used, according to his questionnaire. It can only be assumed that these discrepancies were due to carelessness as the questionnaire was completed by the teacher himself, in his own time, and presented to the researcher on his departure.

#### 7.3.2.3

##### ENGLISH TEACHER (2002)

The English teacher of the Standard 7 and 9 boys had had five years teaching experience of which two had been at his present school. He visited the resource centre five times per week during school hours and had shown films, used the audio-cassette and video-cassette recorders and a portable radio. The latter item was not part of the hardware equipment of the school, so it is assumed that it was a personal item of the teacher concerned.

Transparencies, which had been made with the transparency-maker, had been used in his teaching, although he stated that he had produced no software programs. No projects or assignments had been set in English, but slides, cassettes and tape-slide programs had been handed in to be marked. An explanation for these apparent discrepancies could be that pupils had utilised these resources in oral classes and that the word 'programme' could have caused confusion, the teacher regarding individual transparencies as not part of a 'programme'. It must be mentioned, however, that no indication of an overhead projector having been used, was given, although one was available in every classroom. The English teacher considered the resource centre 'of some value' and the staff 'moderately helpful', with a service rating of three on the five-point scale. With regard to the facilities a rating of two was accorded, and it was emphasised that the most important priority of the resource centre was to ensure that the hardware was in good working condition at all times. An active, creative and willing resource centre 'manager' was seen as an essential component of the resource centre. The English teacher's attitude to the resource centre was predominantly negative and was the only one which could be so classified.

## 7.3.2.4

HISTORY TEACHER (2004)

It was unfortunate that the history teacher of Standards 7 and 9 was also the director of the resource centre (see 7.3.1.4.1) because of the overlap of functions, resulting in the duplication of information, and negating the value of questions on resource centre service and facilities. As director he had an office in the resource centre complex and so visited it every day. Two history projects were set, per year, per class, but no check was made on the availability of suitable materials. However, the teacher-librarian was consulted before the projects were set and classes were taken to the resource centre and assisted to find the relevant materials for the projects. The pupils were encouraged to use all kinds of resources in their projects and did so, submitting transparencies, audio-cassettes and tape-slide programs. The history teacher himself had made videos, transparencies and tape-slide programs for his own teaching and loaned these to other teachers. Films, maps, and pupils' projects had been used during the year. The resource centre facilities were rated excellent and staff service at four on the five-point scale. The resource centre had been 'of considerable value' in his teaching and he believed the prime function of the centre was in providing resources of all kinds for teachers and pupils.

## 7.3.2.5

COMPARATIVE ANALYSIS

The history teacher was the only one to actually encourage his pupils to use software in their projects and assignments and such resources were submitted for assessment. It is accepted that he was predisposed to do so by nature of his position as director of the resource centre, but nevertheless the geography and biology teachers had not done so, although they had both used a wide range of resources and equipment. The explanation for this could be that they were using resource-based teaching methods and felt no need to encourage resource-based learning.

Significantly, two of the pupils considered such encouragement to be important in the use of the centre and its resources:

I think that we should be encouraged to use software and hardware more frequently and without restrictions being imposed (065).

... Also having the subject masters set more work which requires the use of the resource centre (060).

Blair (1981 : 129) highlights the key role of the teacher as the link between the pupil and use of resources:

... The teacher becomes the most immediate and indispensable link to effective use of the school resource centre. Teachers, through planned design and management, determine the effect the centre will have on students in their classes.

It would seem also that the teacher-librarian has a support function, vis-à-vis the teachers' use of resources, for the English teacher commented:

[It is] essential that subject teachers are reminded and encouraged to use material otherwise they become lazy, or afraid of it.

It was noteworthy, however, that the geography and biology teachers felt that there was no need to consult the teacher-librarian when they set their classes projects or assignments which necessitated their use of the resource centre.

### 7.3.3

#### PUPILS' RESPONSES TO QUESTIONNAIRE

##### 7.3.3.1

#### INTRODUCTION

The analysis of the data will follow the question sequence and the designations S7 and S9 will be used for the two standards.

## 7.3.3.2

BOYS' QUESTIONNAIRES

The book collection of 8 500 volumes was low by comparison with the book stock of School A with 12 500 volumes. As the institution was a rural school, with teachers and pupils living on the property, it might be expected that more reading would occur than in an urban school. This assumption was supported by the monthly average of 3,3 books read, as compared to 2,5 books per month read by the pupils of School A. Considerable comment was made by the boys (20%) concerning the book collection:

Updated books, less conservative novels for pleasure reading (033).

... more exciting books. The range of books here is terrible (031).

More leisure books: better books (073).

Only two of the boys did not borrow books from the resource centre and 50% visited it three times per week or every day. The main reasons given were 'to take out a book' (82%); 'to work on projects' (74%); 'to read magazines' (68%) and 'to use reference books' (50%), those of minor importance were 'to seek advice from the librarian (7%) and 'to use the software' (30%). The percentage figures given with reference to reasons for visiting the resource centre would tend to support the use of reference books rather than other resources.

Of all the teachers who set projects or assignments 92% encouraged the use of the resource centre with 91% taking their classes there to work on these projects or assignments. With regard to the four teachers in the survey, the English teacher did not set projects or assignments; the history, geography and biology teachers did so, but as noted previously (see 7.3.2.5) only the history teacher encouraged the use of resources in projects and assignments. The biology teacher did not accompany his class to the resource centre when they were involved with projects or assignments which he had set. Although it has been noted that 92% of teachers encouraged the use of the resource centre for projects or assignments, only 45% of these encouraged the use of software in those projects or assignments.

A comparatively high figure of 30% of the boys indicated that no teacher assistance was given when they were seeking resource materials for projects; but assistance was given by resource centre staff according to 38% of the respondents.

During the year the boys made 129 items of software, the majority of which were computer programs (27); transparencies (20), maps (20) and video-cassettes (17). The pupils used, either in the classroom or the resource centre, 568 items mainly, video-cassettes (57), photocopies

(46), maps and transparencies (42 each), slides (41), pamphlets/booklets (38), films (38) and computer disks (37).

As mentioned elsewhere, the predominance of video-cassette viewing did not imply solely educational use (see 7.3.1.3.3).

The hardware used by the pupils included video-cassette recorders, overhead projectors, audio-cassette recorders, slide, tape-slide and film projectors. The facilities offered by the resource centre were rated four or five by 89% of the boys, almost identical to that of the pupils of School A, at 88%.

The lack of computers, study carrels and resources were seen by the boys as deficiencies to be rectified and have already been alluded to (see 7.3.1.6.2).

The service rating of two or three on the five-point scale, as given by 33% of the boys, revealed some dissatisfaction which could be summarised as easier access to resources and the resource centre itself (16%) (see 7.3.1.2.4) and better maintenance of the equipment (7%) (see 7.3.1.3.4). The following comments verify these assertions:

The use of hardware and software should not be restricted as it is (055).

Relax regulations concerning use (053).

Improve the cubicles [carrels] where we work with the projectors and may watch video on our own. These are hardly ever working (041).

The helpfulness of staff was rated by 27% as 'moderately' so and by 4% as 'not helpful', but by 69% as 'very helpful'.

#### 7.3.4

#### COMPARATIVE ASSESSMENT OF PUPILS' QUESTIONNAIRES

##### 7.3.4.1

#### INTRODUCTION

The comparison of the pupils' responses will be analysed on an item-by-item basis by means of percentage figures unless a number is more appropriate. The number of pupils surveyed is provided in the table which follows:

TABLE 13

#### RESPONDENTS BY STANDARD AND SEX

	Standard 7	Standard 9	TOTAL
Boys	34	40	74
Girls	29	21	50
TOTAL	63	61	124

## 7.3.4.2

ITEM-BY-ITEM ANALYSISSECTION A. READING

1. DO YOU ENJOY READING?
2. DO YOU TAKE BOOKS OUT ...?
3. ... HOW MANY BOOKS DO YOU TAKE OUT AND READ, PER MONTH?

Of the total sample of 124 pupils, 14 (11%) indicated that they did not enjoy reading but nevertheless 5 (4%) of these borrowed books from the resource centre. The S7 boys read 3,4 books per month and the S7 girls 3,1 books per month, but this may be accounted for by the boarding school variable (see 7.3.3.2). More books were read by the S7 pupils, boys and girls, than the S9 pupils, boys and girls, 207 as opposed to 173, where there were comparable pupil numbers S7 (63) and S9 (61). The boys read more than the girls on average, 3,3 to 2,5 books per month, but the urban-rural environmental contrast of the respective schools may have been a determining factor, as mentioned above. Further support was given to this contention when the range of books was considered with one S7 boy reading 10 books per month and one S9 boy reading 15 books per month. The comparative figures for the girls were S7 (7) and S9 (6). The S9 boys read an average of 3,3 books per month and the S9 girls 2,0 books per month. Overall the average number of books read per month was 3.

## SECTION B LEARNING

### 4. HOW DO YOU LEARN BEST?

Most pupils in the survey indicated that their preferred learning methods were, on their own (65%) or with a friend (23%). Only 6,5% of this sample population liked working in groups to facilitate learning. The collaborative aspect of learning, as mentioned in current literature, is an important dimension which is given prominence by pupil tutoring and supportive self-study (Waterhouse, 1985 : 32). More S7 boys (32%) learn with a friend than do S9 boys (8%) and none of the 61 pupils in S9 mentioned learning in small groups as their preferred learning method, although 13% mentioned this in the S7 group. A high percentage of S9 boys (85%) worked on their own when learning.

## SECTION C RESOURCE CENTRE USE AND PROCEDURES

### 5. HOW OFTEN DO YOU VISIT THE RESOURCE CENTRE IN YOUR OWN FREE TIME? (See Table 14) ,

The survey indicated that most pupils visited the resource centre either once a week (35%) or three times per week (27%). Of the S7 boys 38% averaged three visits per week, and of the S7 girls 14% visited three times per week. The resource centre was visited every day by 21% of the S7 boys and 10% of the S7 girls. Of the S9 boys 35% visited the

TABLE 14

FREQUENCY OF VISITS TO RESOURCE CENTRE EXPRESSED AS A PERCENTAGE

Q.5 How often do you use the resource centre?	ALL FIGURES ARE GIVEN AS PERCENTAGES								
	Boys S7	Girls S7	Total S7	Boys S9	Girls S9	Total S9	Boys S7+S9	Girls S7+S9	Total S7+S9
1. EVERY DAY	22	10	16	7,5	0	5	13	6	10
2. ONCE A WEEK	18	38	27	35	57	43	27	46	35
3. 3 x A WEEK	38	14	27	35	10	26	36	12	27
4. ONCE IN 2 WEEKS	15	24	19	15	14	15	15	20	17
5. NOT AT ALL	-								
OTHER									
(a) 4 x A WEEK	3		1,5	2,5	5,0	3	3	2	2,6
(b) ONCE EVERY 2 DAYS	3		1,5				1,5		0,8
(c) 2 x A WEEK	3		1,5				1,5		0,8
(d) ONCE A MONTH		7	3,5	5,0		3	3	4	3,0
(e) EXTRA WORK TO DO		3,5	1,5					2	0,8
(f) CHANGE MY BOOK		3,5	1,5		14,0	5		8	3,0

centre three times per week and 7,5% every day, compared with 10% of the S9 girls going there three times per week and none every day. These figures clearly indicate greater use of the resource centre by the S7 and S9 boys, than by the S7 and S9 girls. Only 10% of the sample visited the resource centre every day but all went there at some time, if only once a month to change their books.

6. WHEN DO YOU VISIT THE RESOURCE CENTRE?

The resource centre was visited mostly during school periods or 'library' period by all pupils, and in the evenings by the boys and during break by the girls. Only 8% of the boys used the resource centre at break but 78% of the girls mentioned that they did so, while 75% of the boys used the facility after school and only 10% of the girls. There were only three pupils who indicated that they had used the resource centre before school. The pattern revealed is consistent with the boarding school resource centre being open in the evenings and so available for computer use, research and studying. The use of the centre in the afternoons would be by those boys not involved in extra-mural activities. In the day school the girls had no access to the resource centre in the evenings and limited access in the afternoon (see 7.2.1.2.5) so they went there mostly during break and library periods or if they were given permission to do so during school periods.

7. WHAT DO YOU USUALLY DO IN THE RESOURCE CENTRE AT ANY TIME YOU GO THERE?

TABLE 15

REASONS FOR VISITING THE RESOURCE CENTRE EXPRESSED AS A PERCENTAGE

	Boys S7	Girls S7	Total S7	Boys S9	Girls S9	Total S9	Boys S7+S9	Girls S7+S9	Total S7+S9
TAKE OUT A BOOK	74	93	83	90	95	92	82	94	87
READ MAGAZINES	56	45	51	78	38	64	68	42	57
WORK ON PROJECTS	71	72	71	78	71	75	74	72	73
USE REFERENCE BOOKS	50	17	35	50	38	46	50	26	40
DO PRIVATE STUDY	26	10	19	25	14	21	26	12	20
SEEK ADVICE FROM LIBRARIAN	3	10	6	10	10	10	7	10	8
USE THE SOFTWARE	29	10	21	30	10	23	30	10	22
DO HOMEWORK	35	17	27	38	33	36	36	24	31
OTHER									
(a) READ NEWSPAPER				1	1				
(b) TALK WITH FRIENDS				1	1				
(c) DO LIBRARY DUTY		1		1					
(d) WATCH VIDEOS	1			1					
(e) USE THE COMPUTERS	3			1					
(f) USE TAPE/SLIDE PROJECTORS				1					

'OTHER' CATEGORIES ARE INDICATED NUMERICALLY

It is clearly indicated from the percentage figures above that the principal reasons for visiting the resource centre were 'to take out a book' (87%), 'to work on projects' (73%), 'to read magazines' (57%) and 'to use reference books' (40%). This was so across every group and every standard. It is to be noted that the categories were not exclusive and some or all the reasons could have been chosen by each respondent. The emphasis on print materials was not unexpected as books and magazines make up a large part of the resources collection in each of the schools in this survey and it was the medium most familiar to users.

The percentage of pupils going to the resource centre in order to 'use the software' was low (22%), although the percentage of boys doing so (30%) was higher than that of the girls (10%). The percentage of boys in S7 (29%) and in S9 (30%) giving this as a reason was almost identical and with reference to the S7 girls (10%) and the S9 girls (10%) it was in fact identical.

#### 8. IS THERE A PLEASANT ATMOSPHERE IN THE RESOURCE CENTRE?

All but two of the pupils, one S9 boy and one S9 girl, stated that there was a pleasant atmosphere in their school's resource centre.

9. IS THERE A SET CLASS PERIOD EACH WEEK DURING WHICH YOU VISIT THE RESOURCE CENTRE?

Only one S9 boy stated there was no class period, it may be assumed, therefore, that he was mistaken and that both S7 and S9 classes in each school had such a timetabled period.

10. ARE YOU AWARE OF A 'GUIDE' OR 'GUIDES' TO THE RESOURCE CENTRE TO ASSIST YOU IN FINDING MATERIAL?

11. WHAT KIND OF GUIDE IS IT?

81% of pupils in the sample indicated there was a 'guide' to the resource centre which was in the form either of a chart (57%), a booklet (22%) or a tape-slide program (22%). Three S7 boys had seen a video-cassette program about the resource centre.

The fact that the card catalogue was mentioned as a 'guide' by 6.5% of the respondents was an indication of the ambiguous nature of the question.

12. DO YOU USE THE CARD CATALOGUE TO FIND BOOKS ON THE SHELVES?

Most pupils (72%) used the card catalogue to find books, 27% did not do so, and 1% did not answer the question. More of

the girls (76%) used the catalogue than the boys (69%) and more S9 pupils (79%) than S7 pupils (65%). Significantly, 95% of S9 girls used the catalogue compared with 62% of the S7 girls. There was little difference in the use of the catalogue between S9 boys (70%) and S7 boys (68%).

13. IF YOU KNOW THE 'TITLE' OF A BOOK, HOW WOULD YOU FIND OUT THE AUTHOR'S NAME?

There was only one answer to this question which should have been marked in one box. The four boxes, provided in error, resulted in some respondents choosing more than one answer. However, only 75% of the pupils in the survey provided the 'correct' answer of consulting the title cards.

SECTION D PROJECTS AND ASSIGNMENTS

14. HOW MANY PROJECTS PER TERM?
15. DO THE TEACHERS WHO SET THESE PROJECTS ENCOURAGE YOU TO USE THE RESOURCE CENTRE?
16. DO THE TEACHERS WHO SET THESE PROJECTS TAKE YOU TO THE RESOURCE CENTRE?
17. DO THE TEACHERS WHO SET THESE PROJECTS ASSIST YOU IN FINDING RELEVANT MATERIAL?
18. WHAT OTHER ASSISTANCE IS GIVEN YOU?

Projects do not seem to be a requirement in the schools of the Natal Education Department as part of the course work completed during the year. In the schools of the Cape Provincial Education Department projects are produced for assessment and external moderation and so the question and response were regarded as particularly important in relation to the use of resource materials. The researcher had to modify the question from 'How many projects per term?' to 'How many projects per year?' and to define the word 'project' to respondents. In the researcher's definition a project was an extensive piece of work, subject and curriculum-related, completed by an individual or a group over a specific time period (approximately 3-4 weeks) and containing items of software such as photographs, audio-or-video-cassettes, slides or realia. Previously, projects were mainly written compilations of facts and figures

derived from reference books, or other print materials; but with the present emphasis on audio-visual resources, may now be presented in the form of a tape-slide program, working model or taped interview with script. The term 'assignment' is used synonymously with the word 'project'.

With reference to the present study an average of 1,8 projects per year was composed by the S7 boys and 1,2 projects per year by the S9 boys. The S7 girls completed 2,6 projects and the S9 girls 2,5 projects per year. These figures were lower than anticipated but confirm the low priority seemingly accorded to projects within the sample schools in this survey. Some 12% of S7 boys and 10% of S9 boys stated that no projects were done during the year, which might be explained by their choice of subjects, where the teachers concerned did in fact set no projects or assignments throughout the year. Most of the respondents (93%) said that they were encouraged to use the resource centre by teachers who had set projects or assignments and that they accompanied the class there (90%).

The teachers helped look for relevant material for these projects or assignments in most cases (73%). 'Teachers assist you in finding other material which may help you in your project' (079), but 25% indicated that no assistance was given in looking for resources. The other 2% of the sample mentioned other assistance, for example from friends

and 'book lists'. Resource centre staff provided guidance in seeking relevant information, as mentioned by 28% of the sample overall, but by 38% of the boys. Significantly, 50% of the S7 boys were assisted by resource centre staff. Typical of the responses given in this regard were:

There is a librarian and a library assistant who are always willing to help you, if you are stuck (014).

The librarian will help you find a book or audio-visual material on the subject (051).

The librarian often sets aside various books and software which are relevant (065).

It would seem that certain subject teachers had prepared a tape-slide program or a video on how to produce an assignment for that particular subject, as this was mentioned by 19% of the boys. The following comments would seem to substantiate this:

We are shown tape programmes and shown what topics we should do for the assignment (050).

The librarian helps us to find books on the topic we need. The use of slide tapes and videos are also available (042).

Assistance in finding information for their projects was also given by 'fellow pupils' (005) or 'friends' (026) and this was mentioned by 4% of the sample population. As previously mentioned (see 7.3.4.4), this aspect of 'learning' is being given more attention, and is of relevance in the context of resource centres where two or

three individuals may be involved in producing a tape-slide program or a video.

19. HAVE YOU EVER BEEN ENCOURAGED TO PRODUCE A PROJECT OR ASSIGNMENT USING SOFTWARE ...?
20. IF YES, HAVE YOU EVER HANDED IN A PROJECT OR ASSIGNMENT USING SOFTWARE?
21. IF YES, WHAT SOFTWARE DID YOU USE?
22. WAS SUCH MATERIAL ISSUED BY THE RESOURCE CENTRE?

Of the sample of 124 pupils, 66 (53%) stated that encouragement had been given to them to use software in their projects or assignments. The girls (66%) had been encouraged more than the boys (45%).

Of those 66 pupils only 40 (45%) had done so using mainly transparencies, maps and charts, although eight pupils had used slides and six a tape recording. A model, a video and a computer printout had also been used.

The software required for the projects or assignments had mostly been provided by the resource centre.

SECTION E USE OF MATERIAL AND EQUIPMENT

23. INDICATE THE SOFTWARE YOU HAVE USED THIS YEAR; EITHER IN THE CLASSROOM OR THE RESOURCE CENTRE. (See Table 16)

Table 16 indicates all the software used by the pupils from January until August 1984. All the figures given are percentages and reveal that the most frequently used items of software were: videos (56%); transparencies (44%); pamphlets/booklets (44%); slides (43%); photocopies (43%); maps (41%) and films (36%). Of the S7 boys (79%) used computer software, and (74%) videos, by far the most frequently used items, while for the S7 girls pamphlets/booklets (41%) and videos (34%) were most commonly used. Videos (80%); transparencies (65%); films (65%); maps (63%); photocopies (63%); slides (58%) and pamphlets/booklets (53%) were used most often by the S9 boys, and the S9 girls used pictures (48%); cuttings (29%) and transparencies (24%) most frequently. The percentage figures confirm the greater use, by the boys, of all software items except pictures, projects and models.

The software items used by the boys, in order of frequency of use, were videos (77%); photocopies (62%); maps and transparencies (57%); slides (55%); films and pamphlets (51%) and computer disks (50%). Items most frequently used

TABLE 16

SOFTWARE USED DURING THE PERIOD JANUARY - AUGUST 1984

	Boys S7	Girls S7	Total S7+S9	Boys S9	Girls S9	Total S7+S9	Boys S7+S9	Girls S7+S9	Total S7+S9
NO. OF PUPILS	34	29	63	40	21	61	74	50	124
AUDIO-CASSETTE	41	14	28	35	14	28	38	14	28
VIDEO-CASSETTE	74	34	55	30	10	58	77	24	56
COMPUTER DISK CASSETTE	79	0	43	25	0	16	50	0	30
FILMS	35	18	28	65	0	43	51	12	36
FILMSTRIPS	15	17	16	23	0	15	19	10	15
SLIDES	53	31	43	58	14	43	55	24	43
TRANSPARENCIES	44	28	37	68	24	52	57	26	44
CUTTINGS	29	18	25	33	29	31	31	24	28
PAMPHLETS	50	41	46	53	19	41	51	32	44
PICTURES	18	24	21	20	48	30	19	34	25
PHOTOGRAPHS	12	17	14	35	19	30	24	18	22
MICROFORMS	0	0	0	0	0	0	0	0	0
PUPILS' PROJECTS	9	18	14	15	5	11	12	14	13
MODELS	6	10	8	5	0	3	5	6	6
GLOBES	9	10	10	13	0	8	11	6	9
MAPS	50	17	35	63	19	48	57	18	41
CHARTS	24	31	37	25	5	18	24	20	23
GAMES	6	14	10	20	0	13	14	8	11
MULTI-MEDIA KITS	6	0	3	0	0	0	3	0	2
RECORDS	12	10	11	10	10	10	11	10	10
PHOTOCOPIES	62	10	38	63	19	48	62	14	43
OTHER: T.V. CAMERA	6	0	3	3	0	2	4	0	2

ALL FIGURES USED IN THIS TABLE ARE PERCENTAGES

by the girls were pictures (34%); pamphlets/booklets (35%); transparencies (26%), slides and videos (24%).

24. INDICATE THE SOFTWARE YOU HAVE MADE THIS YEAR FOR A CLASS ORAL OR PROJECT. (See Table 17)

As can be seen from Table 17 maps (25%) were made most often, followed by computer programs (22%); transparencies (20%); charts (18%) and videos (14%).

The S7 boys produced computer programs (56%); videos (38%) and transparencies (29%) whereas the S9 boys produced maps (30%), transparencies (25%) and computer programs (20%).

The greater production of software items by the S7 boys (74) compared with the S9 boys (56) may be accounted for by the enthusiasm generated by the resource centre in their new school and the availability of computer and video equipment. The initial enthusiasm may have waned for the S9 boys and their academic demands were likely to be greater, with little time available for producing software. The items most produced by the S7 girls were charts (28%) and maps (17%) and by the S9 girls, maps (29%), charts and transparencies (19%). The percentage figures as cited in Table 17 confirm the greater number and variety of software items produced by the boys (130) and the restricted range of the items produced by the girls (35).

TABLE 17

## SOFTWARE MADE DURING THE PERIOD JANUARY - AUGUST 1984

	Boys S7	Girls S7	Total S7	Boys S9	Girls S9	Total S9	Boys S7+S9	Girls S7+S9	Total S7+S9
NO. OF PUPILS	34	29	63	40	21	61	74	50	124
NO. OF INDIVIDUAL ITEMS OF SOFTWARE MADE	74	17	91	56	18	74	130	35	165
AUDIO-CASSETTE	21		11				9		6
VIDEO-CASSETTE	38		21	10		7	23		14
COMPUTER PROGRAM	56		30	20		13	36		22
FILM	14		8	8		5	11		6
SLIDES	9		5	10	5	8	9	2	6
TAPE-SLIDE	6		3	8		5	7		4
TRANSPARENCIES	29	3	17	25	19	23	27	10	20
PHOTOGRAPHS	6		3	10	10	10	8	4	6
MODEL	3	7	5	3		2	3	4	3
MAP	24	17	21	30	29	30	27	22	25
CHART	17	28	19	15	19	16	14	24	18
OTHER:									
(a) PHOTOCOPIES				3					
(b) PICTURES		3	2		5	2			

ALL FIGURES USED IN THIS TABLE ARE PERCENTAGES

EXCEPT FOR NUMBER OF ITEMS MADE

25. INDICATE THE HARDWARE ITEMS YOU HAVE USED THIS YEAR, EITHER IN THE CLASSROOM OR THE RESOURCE CENTRE. (See Table 18)

The items that were used most were the video-cassette recorder (53%); the overhead projector (48%); audio-cassette recorder (41%); and slide projector (31%). The tape-slide and film projectors were used by (26%) of pupils and the record player and reel-to-reel tape recorder by 19% of pupils.

Despite the fact that 27 boys mentioned that they had produced a computer program, only one indicated that he had used a computer. The discrepancy here may be accounted for by the fact that the computer was not listed under the items of hardware in question 25, although an open category was available for additional hardware not mentioned.

In all categories of hardware use the items were used more extensively by the boys: video-cassette recorder (73%) - girls (24%); overhead projector (61%) - girls (28%); audio-cassette recorder (46%) - girls (34%); slide projector (42%) - girls (16%); tape-slide projector (41%) - girls (4%); film projector (41%) - girls (4%). The hardware items used most

TABLE 18

HARDWARE USED DURING THE PERIOD JANUARY - AUGUST 1984

	Boys S7	Girls S7	Total S7	Boys S9	Girls S9	Total S9	Boys S7+S9	Girls S7+S9	Total S7+S9
NO. OF PUPILS	34	29	63	40	21	61	74	50	124
NO. OF OCCASIONS HARDWARE ITEMS USED	119	40	159	154	41	195	273	81	354
REEL-TO-REEL TAPE RECORDER	21	17	19	23	14	20	22	16	19
CASSETTE RECORDER	38	24	32	53	48	51	46	34	41
VIDEO RECORDER	71	28	51	75	19	56	73	24	53
RECORD PLAYER	32	3	19	15	29	20	23	14	19
SLIDE VIEWER (HAND-HELD)	6	17	11		5	2	3	12	6
SLIDE PROJECTOR	26	14	21	55	19	43	42	16	31
TAPE/SLIDE PROJECTOR	44	3	25	38	5	26	42	4	26
FILM PROJECTOR	29	3	17	50	5	34	42	4	26
FILMSTRIP PROJECTOR	15		8	10	10	10	12	4	9
FILM LOOP PROJECTOR	3	7	5	8	5	7	5	6	6
OVERHEAD PROJECTOR	62	21	43	60	38	52	62	28	48
OTHER: COMPUTERS	3		2						2

ALL FIGURES USED IN THIS TABLE ARE PERCENTAGES

EXCEPT FOR THE NUMBER OF ITEMS USED

by the boys were the video-cassette recorder and the overhead projector and by the girls, the audio-cassette recorder and the overhead projector.

The more extensive use of the hardware by the boys supports the greater use of the software as indicated in Table 16.

26. ARE YOU ABLE TO BORROW HARDWARE AFTER SCHOOL HOURS?

27. HAVE YOU BORROWED EQUIPMENT?

28. WHAT EQUIPMENT HAVE YOU BORROWED?

There seemed to be some confusion in answering Q26 as 60 boys (81%) indicated that they could borrow equipment and 14 (19%) indicated that they could not. Similarly with the girls 41 (82%) mentioned that equipment could not be borrowed after school hours and 6 (12%) indicated that it could. (6%) did not respond to the question. A possible explanation for these discrepancies could lie in the ambiguity of the question, with some pupils interpreting it as 'overnight loan' and not as the borrowing of equipment after formal class periods, as was intended.

Of the 60 boys who indicated equipment could be borrowed 35 did so, principally the video-cassette recorder and the computer. Clearly it is the use of the equipment which is being implied here and not the physical issue of an item of

equipment. Of the six girls, two did so, making use of the episcopes and a video-cassette 'tape'.

29. DO YOU USE THE 'DARK ROOM' FACILITIES?

30. HOW OFTEN?

Both schools had a photographic dark room available for the development of photographs. It was used by 11 (28%) of the S9 boys and three (9%) of the S7 boys. Four (14%) of the S7 girls used their school's dark room but no S9 girls. Despite the small sample covered by this study 11% is a very low figure for a facility which is costly to run in financial and staffing terms. Only six (5%) pupils used it on a regular basis the other eight (6%) doing so only occasionally.

31. HOW WOULD YOU RATE THE 'FACILITIES' OF THE RESOURCE CENTRE ON A SCALE OF 1-5? Poor = 1 : Excellent = 5.

Only 11 (9%) pupils rated the facilities on a scale of 3 with 55 (44%) in each case giving a rating of 4 or 5. Three pupils did not respond to the question. The boys rated their resource centre facilities more highly than the girls with (46%) rating them excellent compared to (42%) of the girls.

34. HOW WOULD YOU RATE THE 'SERVICE' PROVIDED BY THE RESOURCE CENTRE?

With regard to the 'service' provided by the resource centre a rating of three was given by (26%) of pupils; (48%) indicated a four; and (24%) rated the service as excellent. Two boys disagreed, rating their resource centre as worthy of a two.

An 'excellent' service rating was given by 36% of the girls and only 16% of the boys. 48% of the S7 girls gave a rating of 5 compared with 19% of the S9 girls.

32. HOW VALUABLE HAS THE RESOURCE CENTRE BEEN TO YOU?

33. HOW HELPFUL DO YOU FIND THE RESOURCE CENTRE STAFF?

All the pupils regarded the resource centre as a valuable asset in the school, 57% indicating 'of considerable value' and 43% 'of some value'. The staff were seen as being 'very helpful' by 73% of pupils, 'moderately' so by 25% and 'not helpful' by 2%. The latter is confirmed by the 'poor' rating of 2 expressed by one S7 boy and one S9 boy.

35. IDENTIFY THE FIVE MOST IMPORTANT FUNCTIONS OF THE RESOURCE CENTRE

The analysis of the responses to this question provided a list of the most important functions of the resource centre, in ranked order, in the opinion of the sample population as a whole, and is given below:

1. To provide books for leisure reading.
2. To provide resources of all kinds for teachers and pupils.
3. To offer a quiet place for studying.
4. To produce software for teachers and pupils.
5. To issue all hardware and software.

The importance accorded to the provision of books for leisure reading is not unexpected in the light of the traditional role of the 'library' as providing books. The provision of resources as an important function was clearly significant in relation to resource centres as their 'raison d'etre'. Notwithstanding the concept of the resource centre as a place of some considerable activity, there were still pupils who sought quiet areas in which to read or study and this trend has been noted elsewhere (see 7.2.1.6.1).

The two functions given the least recognition were:

To classify and catalogue all materials.

To provide formal 'book education' (Resource Science), lessons.

It is encouraging to note that the pupils consider the accessioning procedures as not being a major function of the resource centre. The fact that 'book education' or 'resource science' was of least import requires further comment, particularly as it is a prescribed course and consumes much of the teacher-librarian's time (see 9.2).

### 7.3.5

#### CRITICISM OF THE QUESTIONNAIRE

During the analysis of the data (see 7) it became clear that there were certain errors, inconsistencies, omissions and ambiguities which, if rectified by greater precision in the questions formulated, would have to a degree improved the questionnaire.

#### 7.3.5.1

##### ERRORS

In Q13 relating to the use of the catalogue, pupils responded with two answers in some cases where a single

reply was called for, this could have been rectified by using only one box and excluding the 'other' category.

In Q33, concerning computer science as an external examination subject, a positive reply was given but there were no computers in the school. A follow-up question on the number of computers and pupils involved would have clarified the issue.

#### 7.3.5.2

#### INCONSISTENCIES

The inconsistencies concerning the questionnaires of the teacher-librarian and the resource centre director have already been referred to and possible explanations for these given (see 7.3.1.4.3). In the teachers' questionnaires a film projector had been used but there was no mention of the use of a film; a cassette recorder had been borrowed but nothing was said about using audio-cassettes, and a video had been produced but there was no video camera in the school. Such apparent inconsistencies may have simple explanations; for example the teacher concerned may have used her own video camera and as a consequence of completing their respective questionnaires under considerable pressure, the teachers themselves may have been careless in their responses.

## 7.3.5.3

OMISSIONS

No question was asked concerning the making of slides, by teachers and pupils, in the resource centre, and the use of tape-slide programs was omitted from the text in Q23. In the list of hardware items 'used' in Q25 the computer was omitted. The staffing of the resource centre is a crucial issue and it is felt that a question should have been included on clerical assistance and more detailed information sought on other ancillary staff. Furthermore, questions on the existence or otherwise of a resource centre committee and the support services used by the school would have been pertinent with regard to the school's commitment to resource-based education.

## 7.3.5.4

AMBIGUITIES

In Q10 concerning whether a 'guide' was available some respondents identified the catalogue. This should have been excluded by mentioning it in the question.

In Q26 the borrowing of equipment after school hours seemed to imply for some respondents, on overnight loan, which was not intended, and should have been made clear in the question.

## 7.3.5.5

AN OVERVIEW

In the researcher's opinion the number of schools surveyed was too few to enable extrapolation to be made concerning resource centre policy and provision, and the number of respondents should have been greater to assess more accurately the use of the resource centre. However, each resource centre is unique in the services it offers and a comparable study would be difficult to undertake considering the number of variables which would have to be controlled and the inevitable inequalities in resources, facilities and teacher commitment. In the present study the schools chosen were too diverse in the variables identified to reveal significant comparable findings but nevertheless surprising uniformity of pupil comment was noted, attested to in the data analysis (see 7).

One area of importance, which was not assessed for the reasons previously given (see 1.4), concerned the principal's role in the development of the resource centre but is considered a field worthy of further research. Nevertheless from the facilities provided in the two schools the developments occurring and the activity generated by the resource centre it may be assumed that the principals supported the philosophy of resource-based education.

## 7.4

DEFINING ATTITUDES

As the thrust of this thesis concerns the attitudes of teachers and pupils to the resource centre, as revealed by their responses to the questionnaire, it is germane to the study to attempt to define attitudes, before discussing their assessment and the frames of reference postulated for positive and negative attitude determination.

Attitudes are abstractions, like intelligence and personality, which tend to elude precise definition but are nevertheless present, although open to debate. Oppenheim (1966 : 105) defines an 'attitude' as 'a state of readiness, a tendency to act or react in a certain manner when confronted by certain stimuli'.

Attitudes become overt only when the objects of those attitudes are discerned, and are rarely formed as a result of balanced judgement but are acquired and modified from the attitudes of others. They have certain identifiable attributes, the most significant of which are their emotive content and intensity which may vary from a superficial concern to a fundamental one (ibid : 106-111). Their complexity is acknowledged by Moser (1972 : 376) and underlined by Oppenheim (1966 : 113) when he states that

'the same attitude may express itself in different ways in different people, while some people have no such attitude at all.

Care must therefore be taken that no assumptions are made with reference to a particular population holding a particular attitude.

Another characteristic of attitudes is that they do not stand alone but are interlinked, sometimes in ways that are difficult to determine, but as inherent aspects of personality (Thomas, 1983 : 7; Oppenheim, 1966 : 107-108). It is generally accepted that an attitude has three components; viz a cognitive, an affective and a conative component, equated respectively with what a person thinks about an object; what he feels about it, and how he behaves towards that object (Thomas, 1983 : 4). These components are not divisible but manifest themselves to a stronger or lesser degree in relation to the object for which a particular attitude is held.

In attitudinal research as Evans (1965 : 19) points out, there is the further problem that an attempt to determine an attitude may result in a subtle change in that very attitude on the part of the respondent, either as a result of the researcher's interest, the 'Hawthorne effect'; or as a

result of the respondent being confronted by multiple-choice categories from which he has to choose only one.

Bearing in mind the complexity of attitudes as outlined, an assessment of the attitudes of teachers and pupils to the resource centre was made from the responses to the questionnaires.

#### 7.4.1

##### ATTITUDE ASSESSMENT

In the present research study the inter-relatedness of the three questionnaires; the limitations of time and the number of questions, with regard to the pupils' questionnaire, and the extent of data collection vis-a-vis the resource centre, through the use of materials and equipment, as verified by issue statistics, did not allow for a wide range of attitude statements. It was intended therefore to assess the teachers' and pupils' attitudes a propos such factors as the use they made of the resources available to them; the comments made in the open-ended questions and the approach to projects by the teachers, and the production of resources by the pupils, in conjunction with the two rated questions on service and facilities. It was hoped by this means to determine an overall positive or negative attitude to the resource centre. As the questionnaires were administered by the researcher the respondents answers were 'spontaneous',

to the degree that there was no collusion and elicited within a restricted time period, and could therefore be taken at face value and reflect their attitudes to the resource centre at the time of administration.

#### 7.4.2

##### ATTITUDE CRITERIA

To identify the attitudes in this survey on a positive-negative continuum three frames of reference were postulated for each attitude. (See Table 19)

#### 7.4.2.1

##### FRAMES OF REFERENCE

The frames of reference, 'graded' from strong (1) to weak (3), were matched with each questionnaire until a predominantly positive or negative attitude was indicated. If no decision could be made on the first frame, the second and third were considered in turn. This elimination process identified 68% of the questionnaires, the others being subject to further scrutiny for an overall assessment.

POSTULATED FRAMES OF REFERENCE FOR ATTITUDE DETERMINATION

POSITIVE ATTITUDES	
FRAME 1.	Q 23. 5 ITEMS OF SOFTWARE USED. Q 25. 5 ITEMS OF HARDWARE USED. Q 24. 2 ITEMS OF SOFTWARE 'MADE'.
FRAME 2.	Q 31. RATING OF FACILITIES 4 OR 5. Q 32. RESOURCE CENTRE 'OF CONSIDERABLE VALUE'. Q 33. RESOURCE CENTRE STAFF 'VERY HELPFUL'.
FRAME 3.	Q 2. BOOKS BORROWED FROM RESOURCE CENTRE. Q 5. RESOURCE CENTRE VISITED EVERY DAY OR THREE TIMES PER WEEK. Q 6. VISITED DURING BREAKS, AFTER SCHOOL OR IN THE EVENING.
NEGATIVE ATTITUDES	
FRAME 1.	Q 23. NO ITEMS OF SOFTWARE USED. Q 25. NO ITEMS OF HARDWARE USED. Q 24. NO ITEMS OF SOFTWARE 'MADE'.
FRAME 2.	Q 31. RATING OF FACILITIES 1 OR 2. Q 32. RESOURCE CENTRE 'OF SOME VALUE' OR 'OF NO VALUE' Q 33. RESOURCE CENTRE STAFF 'MODERATELY HELPFUL' OR 'NOT HELPFUL'. Q 34. RATING OF SERVICES 1 OR 2.
FRAME 3.	Q 2. NO BOOKS BORROWED FROM RESOURCE CENTRE. Q 5. RESOURCE CENTRE VISITED 'ONCE EVERY 2 WEEKS' OR ONCE A WEEK. Q 6. VISITED ONLY 'DURING SCHOOL' OR DURING 'LIBRARY PERIODS'.

## 7.4.2.2

GENERAL POSITIVE AND GENERAL NEGATIVE

Where the questionnaires could not be identified as clearly evident of a positive or negative attitude to the resource centre from the frames of reference stipulated, a general assessment was made based on all the postulated criteria. Following this six questionnaires were considered unclassifiable on the responses given. The results are given in Table 20.

## 7.4.2.3

PUPILS' ATTITUDES

A positive attitude to the resource centre was indicated by 83% of the sample and a negative attitude by 12% as assessed by the defined frames of reference, with 5% being unclassifiable. Over 90% of the boys had a positive attitude but only 70% of the girls. Almost one-quarter (24%) of the girls in this sample population revealed a negative attitude to the resource centre as determined by the attitude criteria postulated.

## 7.4.2.4

TEACHERS' ATTITUDES

The teachers' attitudes were likewise determined by the frames of reference previously described (see 7.4.2.1). In School A three out of four teachers had a positive attitude to the resource centre based on frame one (See Table 19) and the fourth had a positive attitude on frame two, as only one type of software had been made.

In School B one teacher had a positive attitude as identified by frame one, one on frame two, and the history teacher, as resource centre director, was excluded. The English teacher's responses indicated no software made, no projects set, a rating of two for facilities and three for service giving a predominantly negative attitude to the resource centre (see 7.3.2.3).

TABLE OF PREDOMINANTLY POSITIVE AND PREDOMINANTLY NEGATIVE  
ATTITUDES AS DETERMINED BY POSTULATED ATTITUDE CRITERIA

TABLE 20

	B7	G7	B9	G9	TOTAL	TEACHERS		
						SCHOOL A	SCHOOL B	TOTAL
<b>POSITIVE ATTITUDE</b>								
FRAME 1	10	2	9	1	22	3	1	4
FRAME 2	8	14	6	8	36	1	1	2
FRAME 3	10	2	7	0	19			
GEN. POS.	4	2	14	6	26			
	32	21	36	15	103 83%	4	2	6
<b>NEGATIVE ATTITUDE</b>								
FRAME 1		3	2	3	8			
FRAME 2	1				1			
FRAME 3								
GEN. NEG.		4 (24%)	2		6		1	1
	1	7	2	5	15	0	1	1
		4%			(12%)			
UNDETER- MINED	1	2	2	1	6 (5%)			
	34	29	40	21	124	4	3	7

'GIVEN BETTER AND MORE LEARNING RESOURCES  
WE ARE STILL SUBJECT TO THE LAW THAT EDUCATION  
IS AS GOOD AS THE TEACHERS WHO PROVIDE IT'.

(Featherstone, 1973 : 13)



SECTION D : CONCLUSIONS AND RECOMMENDATIONSCHAPTER 8SUMMARY AND CONCLUSIONS RESULTING FROM THE EMPIRICAL STUDY  
IN RELATION TO THE POSTULATED HYPOTHESES

## 8.1

SUMMARY

The key components of this conceptual and empirical study were identified at the commencement of this thesis (see 1.2) and it is the interrelatedness of these factors, the pupil, the teacher and the teacher-librarian, and especially the attitudes of the former, which determine the way in which the resource centre will develop and hence its ultimate place and acceptance within the curriculum, the school and the community. On the basis of the findings in this study it is justifiable to state that the teacher is central to the success or failure of the resource centre, for it is his attitude to the use of resources in his own teaching, or in learning, which will influence the use of resources and of the resource centre itself, by his pupils. Although previously cited Blair's observation is apposite:

... the teacher becomes the most immediate and indispensable link to effective use of the school resource centre. Teachers, through planned design and encouragement, determine the effect the centre will have on students in their classes (1981 : 129).

In the present study only one of the teachers had a predominantly negative attitude to the resource centre.

Eight major areas have been identified in the literature as affecting teacher use of the resource centre viz: (1) co-operative curriculum planning; (2) teacher in-service programs provided by the teacher-librarian; (3) instructional program of the school; (4) professional and personal attributes of the teacher-librarian; (5) administrative policies; (6) physical facilities; (7) teacher attitudes, background (both educational and cultural), and interests; (8) co-operative selection and evaluation of the collection (Thomason, 1981 : 130-41).

If there is to be any progress in resource centre development it is clear that the teacher should be involved in as many ways as possible, in selection and evaluation (Carroll, 1981 : 130); in production of resources (Davis, 1972 : 57); in workshops and in planning. As Featherstone (1973 : 9) points out 'the more a teacher is involved in developing the centre the more he will use it and the more useful he will find it'.

With reference to the pupils it was evident from the study that they appreciated their respective resource centres and the facilities and service provided (see 7.2.3.2) as the majority (83%) showed a positive attitude to its presence within the school and considered it of value. However, the use of the facilities, as revealed by the analysis of the data was disappointing (ibid) and was mainly to consult, read or borrow print material. The use and production of audio-visual software was minimal (see 7.3.4 : 7) but teachers did encourage the pupils to use the resource centre when seeking information (see 7.3.4 : 15). The resource materials produced by the pupils were principally transparencies, charts and maps, and the absence of slides, tape-slide programs and audio- and video-cassettes was notable, but the latter would have required more time, effort and group co-operation. Such co-operative enterprises seemed to be lacking as no evidence of their existence was revealed in the questionnaire responses. As far as could be ascertained the use of the resource centres by the pupils was principally for information to complete projects and assignments and for the pursuit of recreational interests rather than educational needs, with little or no evidence of independent or individualised learning (see glossary) taking place in either school.

Further conclusions to this research study will be drawn as the hypotheses postulated (in 1.3) are discussed and elaborated upon.

## 8.2

### HYPOTHESES

#### 8.2.1

HYPOTHESIS 1.3.1.1 : That the resource centre is an integral part of the implementation of the modern school curriculum as evident from teacher and pupil attitudes and patterns of use.

The need for resource centres in schools has been acknowledged (Holder, 1973 : 53; Featherstone, 1973 : 12) following the recognition of individual differences and the curricular developments which have taken place in recent years and have been mentioned elsewhere (see 2.2.2.2). More independent learning modes with active, pupil involvement, such as self-discovery, enquiry methods and programmed learning (see 2.2.4), have created the need for resource materials across a wide range of interests and abilities.

In the United Kingdom specifically, the pursuit of comprehensivisation and the introduction of mixed-ability classes spurred much development in resource-based learning (Thornbury, 1979 : 14). Concomitantly there was the 'reprographic revolution', with the duplication of materials

to provide numerous worksheets for individuals to proceed at their own pace. In fact, the most significant moves in centralising resources were in reprographics not centralising software and hardware (ibid : 46), much of which remained in the powerful departmental domains (see 3.3). There was commitment to resource-based curriculum, but this was equated with proliferating worksheets which might not even be the concern of the resource centre itself (ibid) or resources used as 'isolated events casually linked to the curriculum' (ibid : 83). From what has been related it is clear that the resource centre was not crucial to the implementation of the school curriculum, as long as a reprographic service was provided somewhere in the school, and as long as the centre was considered largely peripheral or supplementary to the essential task of the teacher in the classroom.

In the South African context there was little evidence of a similar extensive 'reprographic revolution' either from the literature surveyed or from the present study, although photocopying facilities were available and used by both teachers and pupils (see 7.3.1.5.2). Overriding departmental interests were revealed in the biology department's own resources, in School B, and the expressed wish of the geography teacher, in School A, to have the geography resources decentralised for ease of access. Information was not sought on inter-disciplinary

consultation, co-operation and curriculum planning, which might have necessitated increased use of resources, and nothing was revealed of this in the data analysis.

In the present study positive teacher attitudes to the resource centre are evident from the encouragement given to the pupils to use it when projects or assignments were set and by the assessed ratings of service and facilities. Similar high ratings were accorded by the pupils, likewise indicating a positive attitude. However, the comparatively low figure of visits to the resource centre by pupils (see 7.3.4.2 : 5) and the emphasis on books for leisure reading (see 7.3.4.2 : 7) as their main reason for going there suggest a preponderance of recreational rather than educational need. In a study quoted by Blair (1981 : 141) a similar finding was revealed, where 'the major function of the resource centre was to encourage recreational reading and ... instructional program support was secondary'.

Teacher assistance in the resource centre to find relevant materials for projects is indicative of part integration with the curriculum, but emphasises supplementary work to that of the classroom, which is the value of the resource centre in the opinion of one of the teachers (see 7.3.2.2). The use of audio-visual rooms and video viewing facilities implies class learning situations and an acknowledgement by the teacher that resources have a place in the educative

process. Confirmation of this was evident in their use of a variety of equipment and materials in their own classrooms, particularly transparencies, which they all used, and which are indicative of a resource-based teaching style. However, from the analysis of the data gathered in this empirical study it is difficult to ascertain with certainty, the extent to which the resource centre is an integral part of the implementation of the school curriculum, as evident from teacher and pupil attitudes and patterns of use, and hence the hypothesis as postulated cannot be verified. Malcolm (1974 : 9) has emphasised that if the resource centre is to succeed its use must be integrated with the curriculum. Despite some ten years of resource-based education in the United Kingdom it has only been as a result of the rationalisation of school policies following financial stringency that 'a growing awareness of the crucial relationship between curriculum objectives and the provision and use of resources' (Thornbury, 1979 : 15), has come about.

#### 8.2.2

HYPOTHESIS 1.3.1.2 : That the resource centre is an essential element of individualised instruction as evident from pupil attitudes and patterns of use.

Individualised instruction pre-supposes the availability of materials from which the pupils may actively pursue their

own learnings with the guidance and support of the teacher. The resource centre is the natural learning centre within the school for such activity and hence is an essential element if individualised instruction is a learning style which operates in the school. An example would be the supported self-study mode described by Waterhouse (1983b : 18-20), which envisages the teacher in a supportive role allowing the pupil to grow to independence. Recent investigations in the United Kingdom have shown that little individualised and independent learning is taking place, by means of resources, where it would be the most suitable method:

Little or no resource-based independent learning was found in sixth forms despite the traditional emphasis on private study and teaching individuals in small groups (Thornbury, 1979 : 54).

Despite the fact that the pupils in the present empirical study suggested that there be more areas for quiet study and more individual carrels to work in, there is little evidence from the analysis of the data that teachers or pupils conceive of the resource centre as providing a means for pupil-initiated learning, separate from project or assignment work. The resource centre therefore cannot be said to be an essential element of individualised instruction as evident from pupil attitudes and patterns of use in this particular study, but in a wider context it must necessarily be so where resource-based learning is the accepted educational mode.

## 8.2.3

HYPOTHESIS 1.3.1.3 : That resource-based teaching is more in evidence than resource-based learning in contemporary secondary education.

In the United States the extensive support services outlined (see 3.2) have enabled an advanced stage of development to be reached in some areas, where resource-based learning has become paramount. This implies individualised learning activities, student contracts, computer-assisted learning and teacher guidance (Onorevole, 1973 : 16-17). The pupil is responsible for his own learning experiences and uses a variety of media to attain his learning objectives. For Rogers (1969 : 143) pupil responsibility, which includes self-evaluation, is the crux of education:

The evaluation of one's learning is one of the major means by which self-initiated learning becomes also responsible learning. It is when the individual has to take the responsibility for deciding what criteria are important to him, what goals he has been trying to achieve, and the extent to which he has achieved these goals, that he truly learns to take responsibility for himself and his directions.

Pupil responsibility is synonymous with the pupil autonomy proposed by Waterhouse (see 2.1.14) as a worthy goal of education and promoted more recently as supported self-study (Waterhouse, 1983b : 17).

In the United Kingdom there was considerable movement towards resource-based learning in the early seventies (Featherstone, 1973 : 1) particularly with the support services previously described (see 3.3), but financial restrictions have curbed this innovative activity in the schools and recent research has shown a movement towards resource-based teaching where 'the busiest library resource centres were those timetabled for class viewing of video tapes or the resource-based teaching of large groups of children' (Thornbury, 1979 : 40). In the present study evidence of the use of transparencies by teachers (see 7.2.2.5), group viewing of videos and films, extensive use of lecture theatres and audio-visual rooms (see 7.2.1.2.5; 7.2.1.6.2) and the requests for more such facilities, confirms the use of resources in a large group teaching and learning situation, where the teacher controls the education process and the use of the software (see 1.2). As indicated previously (see 8.2.2) resource-based learning by the pupils was not in evidence except in so far as projects and assignments were completed from source materials provided by the centre (see 7.3.4.2 : 7). From the survey conducted the hypothesis that resource-based teaching is more in evidence than resource-based learning in contemporary secondary education, was verified.

## 8.2.4

HYPOTHESIS 1.3.2.1 : That teacher encouragement to use the resource centre is a significant factor in the use of resources by pupils.

## 8.2.5

HYPOTHESIS 1.3.2.2 : That teachers determine primarily whether resources will be used for teaching as distinct from learning.

It has already been mentioned (see 8.1), and also confirmed by Blair (1981 : 141), that teacher encouragement is a significant factor in the use of resources by pupils. In School B 92% of teachers who set projects encouraged the use of the resource centre, but only 45% of those encouraged the inclusion of software as part of the project (see 7.3.3.2). This would seem to indicate that information was being sought from print materials in order to complete the projects and this is substantiated from the reasons given for visiting the resource centre (see 7.3.4.2 : 7). Where teachers did not encourage the use of resource materials in projects none were submitted, and when they were encouraged appropriate materials were produced and handed in as part of the project. Significantly, the pupils considered that teacher encouragement to use resources and the centre itself, was important (see 7.3.2.5; 7.2.3.2). It is clear from the foregoing that it is the teacher who determines the

use made of resources and the weight of evidence in this empirical research (see 8.2.3) indicates that resource-based teaching is the preferred mode of instruction practised in the schools in the present study. The hypotheses (1.3.2.1 & 1.3.2.2) as postulated have been confirmed from the present research and a survey of the literature.

#### 8.2.6

HYPOTHESIS 1.3.2.3 : That a high rating accorded to the service and facilities, by teachers and pupils, is indicative of a relatively effective resource centre and conversely a low rating of a relatively ineffective one.

The positive attitude of resource centre staff to the promotion of resource materials in education is revealed by the fact that 72% of the pupils and 71% of the teachers classified the staff as 'very helpful'. The pupils comments indicated praise (see 7.2.1.8) and satisfaction (see 7.2.3.2) thereby providing pointers to the effectiveness of the resource centre, confirmed by the ratings. The facilities were rated either four or five on the five-point scale by 88% of the pupils and 87% of the teachers and a similar rating was accorded to the service by 72% of the pupils and 71% of the teachers. The service offered by the teacher-librarian in School A, with her extensive subject catalogue (see 7.2.1.5.1), creative displays (see 7.2.1.2.3) and subject bibliographies are evidence of above-average

service to users. In School B the teacher-librarian had good liaison with teachers (see 7.3.1.2.3) and pupils (see 7.3.1.2.2) and provided considerable assistance to the latter (see 7.3.4.2 : 17). The teacher-librarians' commitment to resource-based education is revealed in the service they offer to their users and in the appreciation expressed by those same users. The positive attitudes of teachers and pupils, exemplified by their personal comments and high ratings, clearly reflect the high standard of service and facilities provided in both resource centres and confirm the hypothesis as formulated.

#### 8.2.7

HYPOTHESIS 1.3.2.4 : That the creative involvement in the production of software items by teachers and pupils is indicative of a particularly positive attitude to the use of resources in education and by implication, to the resource centre as an educational instrument.

The production of resources by teachers and pupils was seen by Beswick (1972 : 10) as a natural development emerging from the existence of a resource centre within a school. Others were more critical with regard to in-house production of resources and Gibson (1982 : 3), as already mentioned, considered teachers to be lacking in the necessary production skills; Ryder (1975 : 24) deplored the possibility of inferior materials, while Evans (1975 : 46)

pointed out the considerable time required to produce even a short program, time which was not available to the classroom teacher. In the present study all the teachers except one had produced items of software for their own teaching, particularly transparencies, and all but one had produced at least two kinds of software. Reider (1984 : 13) in a perceptive comment, cited previously (see 4.4.2.2), notes that teachers like to create their own curriculum materials rather than 'accepting "off-the-shelf" curriculum'. If this is so the resource centre is well placed to provide for, encourage and satisfy such a creative need.

The girls had made far fewer items than the boys, mainly in the form of maps, charts and transparencies, while the boys had produced computer programs and video-cassettes, but as no questions were asked as to the nature of such programs no inferences can be drawn as to their content, whether principally educational or recreational. Although positive attitudes of teachers and pupils have been identified in the creation of resources themselves, those produced by the boys cannot be assessed as educationally relevant and so the hypothesis as formulated cannot be verified from the evidence presented in the responses to the questionnaire.

## 8.2.8

HYPOTHESIS 1.3.2.5 : That the extent of hardware use by teachers and pupils is equally indicative of a particularly positive attitude to the use of resources in education and by implication to the resource centre as an educational instrument.

The percentage figures given in Table 18 confirm that considerably more equipment was used by the boys than the girls with comparatively high usage of the video-cassette recorder and the overhead projector. As noted previously it could not be ascertained from the responses to the questionnaire and additional comment as to whether the former was used to entertain rather than to educate. The computer was used frequently by the boys but no percentage figure is included in the Table for the reasons previously cited (see 7.3.4.2 : 25).

Teachers used a variety of hardware in their teaching, all of them using the audio-cassette recorder, but there is no clear indication of an extensive use of the hardware. Hence the hypothesis as outlined cannot be substantiated fully from the analysis of the data in this survey.

## 8.2.9

HYPOTHESIS 1.3.3.1 : That a greater use of resources will be evident in a rural boarding school rather than in an urban day school.

## 8.2.10

HYPOTHESIS 1.3.3.2 : That a greater use of resources is likely to occur in the earlier years of secondary school rather than the later.

The concluding hypotheses will be examined a propos indications derived from general experience and reference in the provisional literature survey. There was clear evidence that, with regard to the number of books read (see 7.3.4.2 : 3); the number of visits to the resource centre (see 7.3.4.2 : 5); the use of software and hardware (see 7.3.4.2 : 23, 25) as well as the number of items produced (see 7.3.4.2 : 24), the performance of School B (the rural boarding school) was superior to that of School A (the urban day school). The hypothesis as given, i.e. that a greater use of resources will be evident in a rural boarding school rather than in an urban day school has been verified from the data provided in this survey.

With regard to the use of resources Thornbury (1979 : 82) mentions that a resource-based approach to learning was more evident in the first two years of secondary school and that

in subsequent years examinations were the priority. In the present study it was found that the S7 boys visited the resource centre more often (see 7.3.4.2 : 5), read more books than their S9 counterparts, and produced more items of software. Likewise, the S7 girls read more (see 7.2.3.2) than the S9 girls. On the contrary, the S9 boys and S9 girls used more hardware items than the S7s but the purpose for which they were utilised was not evident from their responses. Although there is some evidence to support the hypothesis it cannot be clearly confirmed from the results of this survey. The hypothesis, therefore, that a greater use of resources will occur in the earlier years of secondary school rather than the later cannot be verified beyond dispute from the analysis of the data.

### 8.3

#### RESUME OF FINDINGS

- 8.3.1 The teacher is central to the success or failure of the resource centre. ✓
- 8.3.2 The teacher's attitude to the resource centre is directly related to the use made of it by his pupils. ✓
- 8.3.3 Teacher involvement in all resource centre activities is essential if there is to be acceptance and development of resource centres. ✓

- 8.3.4 The resource centre was mainly used by the pupils for information to complete projects or assignments.
- 8.3.5 The resource centre was used by the pupils more for recreation than education.
- 8.3.6 The resource centre is not crucial to the implementation of the curriculum where resource-based teaching is practised and where it is regarded as providing supplementary materials for classroom teaching.
- 8.3.7 There was little evidence of the resource centre being used for independent learning.
- 8.3.8 Resource-based teaching rather than resource-based learning was the current practice.
- 8.3.9 The teacher determines whether resources will be used for teaching or for learning or for both teaching and learning.
- 8.3.10 The majority of teachers and pupils had a positive attitude towards the resource centre.

#### 8.4

#### CONCLUSION

The joint conceptual and empirical study has revealed that the resource centre has a significant role to play as a provider of resources to meet the needs of teachers and pupils whether in teaching or in learning. However, its

importance and effectiveness within the school will be determined principally by the teacher, who ultimately controls the educative process. The word 'control' was a key concept emerging from the literature (see 1.1) and Beswick (1977 : 22) underlined its particular relevance for practising teachers:

Teachers are, all too often, less concerned with measuring their efficiency than with surviving. They are very concerned with problems of control ... they rate order higher than efficient learning in the list of priorities and understandably fear that changed methods may threaten it.

Gibson (1981 : 68) suggests that independent learning has not been widely adopted because of the role change expected of the teacher in pursuing resource-based education and his reluctance to yield control to pupils. But if progress to independent and individualised learning is to mean anything the teacher must lessen his control of the educational environment and the pupil must become more in control of his own learning (Rogers, 1969 : 143).

Balson (n.d.:1) makes an important observation when he contends, in an Australian context, that the philosophy of education on which resource centres is predicated - ie. individualised instruction - is unknown to many teachers. In the researcher's opinion, based on personal observations and impressions, a similar situation exists in South Africa where there is little empirical, literary or research evidence to indicate that curriculum innovation is occurring

on a basis of individualised instruction. In Balson's (ibid) view the development of resource centres has been an innovation before its time 'a response to future educational change rather than to existing educational demands'.

If Balson is correct in this assumption, the resource centre may act as a change agent by spreading the philosophy of independent learning and initiating programs with concerned and innovative teachers, to become a point of influence which it is hoped will have a ripple effect throughout the school. Change will only occur with administrative support where there are adequate resources, both human and material, and where the objectives are clear and realisable within a given time scale (Diamond, 1971 : 7). The resource centre, as the provider of independent learning materials, is the most likely agency within the school from which change of such a nature may emanate.

CHAPTER 9RECOMMENDATIONS FORMULATED AS A RESULT OF THE EMPIRICAL  
STUDY AND THE LITERATURE SURVEY

## 9.1

STANDARDS

Standards are a means by which an organisation can measure its achievements. As Davies (1979 : 379) comments:

Standards are the hallmarks of professional excellence that define professional goals, that specify professional qualitative and quantitative requirements, and that direct professional planning and action.

The authority of the body responsible for drawing up standards in a particular field must be recognised if the standards are to be accepted by the practitioners. They are generally formulated to promote progress and more equality of provision where wide differences exist in facilities and practices.

In the brief historical review of the development of resource centres in the United States and the United Kingdom (see 3.2 : 3.3), reference has been made to the significant impact which resulted from their publication in their respective countries. Davies (1979 : 380) outlines the careful planning, research, consultation and subsequent

formulation of the 1960 Standards for school library programs in the United States, and their extensive promotion when published.

In the South African context, it is suggested that a set of standards for resource centres be drawn up to provide quantitative and qualitative guidelines and recommendations suited to local conditions. Initially, it is suggested a set of standards be formulated on a provincial basis as there is such a diversity of provision, procedures, commitment and basic terminology, even at this level (see 9.8) that uniformity countrywide would be impossible to achieve at this point in time. A Standards Committee comprising a wide spectrum of representation from professional organisations is a pre-requisite for involvement and implementation of a carefully planned program (Davies, 1979 : 380). Representatives should be appointed from such bodies as the university library schools, Committees of School Principals, Teachers' Associations, School library [resource centre] committees, the Education Departments' library and educational technology divisions and the South African Institute for Library and Information Science (SAILIS). The duly-appointed Provincial Standards Committee, in conjunction with the proposed university research unit (see 9.9), could initiate a detailed questionnaire to determine the current resources and facilities available in schools, to enable

standards to be devised and the formulation of a basic resource centre program. Once the four provinces have promoted and implemented their respective standards and a degree of attainment has been reached it is envisaged that closer co-operation between the provinces will lead to uniform policies and eventually a national set of standards. Such uniformity is of prime importance if national networks and programs of mediated education are to be initiated as recommended by the de Lange report (HSRC, 1981 : 39). The Human Sciences Research Council (HSRC) is the appropriate body for the formulation of such National Standards and policies vis-a-vis resource centres in South Africa.

## 9.2

### RESOURCE SCIENCE

Resource science has been an important feature of school 'librarianship' throughout South Africa. The classes take place in the resource centre and are given by the teacher-librarian in a formal class atmosphere (Beswick, 1981 : 12). There is a set syllabus to be covered in Standards 6 and 7, which is an extension of what has been 'taught' in the junior school. The content of the course, which concerns working with bibliographic tools and understanding their use, could be 'taught' elsewhere to enable the resource centre to be available at all times for teachers and pupils. As Holder (1973 : 58) categorically states, 'the library

(resource centre) must not be used as a formal teaching base'. Beswick reveals the prescriptive elements of such a course when he comments that 'Some provinces, such as the Transvaal, gave very detailed instructions on the contents and methodology of class lessons, which had to be faithfully reflected in ... reports ' (1981 : 7). However, criticism has been voiced concerning the value of this formal approach to library methodology divorced from the practical need to use the reference works as a result of classroom learning experiences. Brake (1979 : 40) is of the opinion that 'Isolated library lessons have failed because the skills are not introduced and reinforced across the curriculum in the normal practice of teaching'. With reference to the United States Vandergrift (1979 : 17) states, 'It is my belief that traditional patterns of library instruction reach only the habitual media center [resource centre] users who learn most of the content through other experiences anyway', and in the South African context Mulder (1981b : 38) makes a telling observation:

To me it seems that after more than 25 years of Book Education [Resource science] and Integration (of the school library with classroom teaching) there is very little proof of success at the tertiary education level in as far as independent study ability and related skills are concerned.

From the evidence presented it is clear that the teaching of resource science as an isolated subject has not been successful. The demonstration of resource skills and information retrieval techniques must only be undertaken as

a result of direct pupil and teacher need, preferably on a one-to-one or small group basis. It is the researcher's contention, as a result of personal experience, that teachers likewise need such instruction and his views were confirmed by one pupil's perceptive comment:

Teachers in the school take a class to the library to get information. But they can't really help us because they don't know anything about the library themselves (117).

#### 9.2.1

#### RESOURCE SCIENCE AND THE TEACHER-LIBRARIAN

The teacher-librarians in the present survey were performing dual roles as 'teachers of subjects' and as 'librarians'. They were involved in teaching art, history and resource science seven to eight hours per week. In their roles as 'librarians' they were also attempting to cope with the administrative requirements of the resource centre and provide an effective and efficient service to all teachers and pupils in the school. Such a task is not possible with the burden of responsibilities that the teacher-librarian is expected to carry. To provide a service worthy of the name 'the teacher-librarian must be exempt from all duties and responsibilities' (Alswang, 1976 : 15).

The administrative overload of the teacher-librarians, mentioned in the present study (see 7.2.1.6.1; 7.3.1.6.1), needs further explanation and consideration. Many hours of

the teacher-librarians' time are spent in writing letters to suppliers of print and non-print resources, ordering and processing of these materials when they arrive, providing multiple-copies of forms for official payment and compiling statistics, the accuracy of which is debatable, for required annual returns; figures which reflect only the quantity of the resources borrowed, and in no way indicate the use to which they are put. As Gillespie & Spirt (1973 : 28) point out ... 'there can be little direct and meaningful measurement of educational programs based solely on counting items that are provided and [counting] the people who are served'.

The administrative procedures outlined must be the work of clerical assistants in order to release the teacher-librarian for the job for which he/she is professionally, and often dually, qualified to undertake. Teacher-librarians will then be freed to provide a more beneficial service to users and pave the way for individualised learning.

With the resource centre functioning solely as an information and learning centre it will be available throughout the school day for all who wish to use the resources and there will be staff on hand to offer assistance, answer queries or demonstrate equipment (see 7.2.1.2.2). It is recommended, therefore, that the teacher-

librarian be employed full-time in the resource centre with no teaching or extra-mural commitments or any other duties and responsibilities.

### 9.3

#### RESOURCE CENTRE DIRECTOR

The literature survey has revealed that no matter who is ultimately responsible for the resource centre, whether it be the teacher-librarian or director/head of resources, that person should be granted head of department status within the school in order to make a meaningful contribution to curriculum integration and authoritative decisions concerning the resource centre. This viewpoint is supported by Holder (1973 : 60) who contends that the head of resources, 'will need to have status, equivalent to that of the Senior Heads of Department, enabling him to organise the work of ancillaries, equipment and resource materials'.

If the principal sees the resource centre as crucial to the learning program within the school, and its stage of development merits consideration of such status for the teacher-librarian it is important that it be granted. It is the principal who ultimately determines the significance of the resource centre in the eyes of the teachers and the pupils and hence the role it will play in curriculum integration and development (Williams, 1980 : 138), and its

social standing vis-à-vis other facilities and activities promoted in the school. Where merited, therefore, it is recommended that principals give due recognition and status to those responsible for running their resource centres.

#### 9.4

#### THE PRINCIPAL AND THE RESOURCE CENTRE

From what has already been mentioned (see 9.3) the principal's role vis-à-vis the resource centre is an important one and is supported by the literature. The attitude of the principal to the resource centre was identified in the preliminary literature survey as being of significance to the effectiveness of the resource centre within the school (Blair, 1981 : 136) but was not considered a separate issue in the present empirical study for the reasons stipulated (see 1.4.2). In the researcher's experience the enthusiastic support of the principal is a prerequisite for any development of the resource centre for, as noted previously, he controls the allocation of finance (Williams, 1980 : 132) and his emphasis on the role of the resource centre in the school will reflect, to a degree, the use made of it by teachers and pupils:

It is the principal who sets the educational priorities for his faculty [staff]; it is the principal, who, by his attitude, encourages the teachers to plan with the library media specialist [teacher-librarian] for class, group, and individual student use of the library media center (Davies, 1979 : 367).

It is recommended, therefore, that an empirical study be conducted into the role of the principal in relation to the development of resource centres in South Africa.

## 9.5

### RESOURCE CENTRE STAFFING

From the recommendations cited in the literature, and in particular the standards outlined by the Library Association (see Table 2), it is clear that a crucial factor in resource centre development is adequate staffing (see 9.2.1). In the present survey a technician was seen as a future need in School A, and in both schools clerical assistance was urgently required (see 7.2.1.6.1; 7.3.1.6.1). No matter what the level of provision in the secondary school a full-time teacher-librarian should be appointed with no teaching commitments (see 9.1). In addition to such an appointment a clerical assistant is required to fulfil the numerous administrative tasks implicit in the running of a resource centre (see Appendix 8). The items of hardware available, no matter how basic, will have to be distributed, serviced and repaired. A technician, employed to maintain the equipment and be responsible for the duplicating of materials within the school is not likely to be under-employed, and is an essential requirement. Such ancillary personnel have likewise been advocated by Overduin (1981a : 6). It is recommended, therefore, that a full-time

teacher-librarian be appointed to every secondary school, with no teaching commitments; a full-time technician; and a part-time clerical assistant and that this be accepted as the basic staff provision for the growth and development of the resource centre. If no such provision is forthcoming, in the researcher's opinion, there will be no possibility of the resource centre becoming the dynamic focus of individualised learning which is its raison d'être.

## 9.6

### TEACHING METHODOLOGY

Individualisation is seen as a learning program in which content, materials, objectives and teaching strategies are based on the characteristics of the individual pupil (Balson, n.d. : 7). This philosophy of individualisation, as defined, is incompatible with a structured educational program of examinations, rigid timetables and syllabi. These are the very features which predominate in South African secondary education at the present time, but the need for radical change has been recognised:

Ook in ons land word intensief aandag gegee aan noodsaaklike veranderings ten opsigte van die leerinhoud, metodiek, ens. Tog word werklike ingrypende verandering teegehou deur 'n te sterke eksamingeregtheid veral aan die einde van die sekondere skool. Ingrypende verandering in hierdie situasie sal 'n vernuwing in onderwysermetodiek kan bring en dit sal nodig wees voordat die skoolmediatek werklik 'n inherente plek in die daaglikse skoollewe sal kan inneem (Overduin, 1981b : Ch 1 : 26).

From what has been said it is clear that the teaching methodology requires radical revision. For Bremer (1971 : 166) only total change will be relevant:

No change in an educational system will be of significance unless the social organisation of education is totally changed, that is, unless the system itself is changed.

Oettinger (1969 : 130) has stressed 'intensive programs of staff education that would enable teachers to change their instructional practices to meet the requirements of the innovations'.

Only by teacher approval and adoption of the philosophy of resource-based learning (see 8.1) will significant change occur in the demands on the resource centre and enable it to fulfil its true function. It is recommended, therefore, that a teacher-education program concerning the implementation of individualised learning and the use of the resource centre, be initiated.

## 9.7

### SUPPORT SERVICES

The extent of the support services described in this thesis (see 4.10) have, to a considerable degree, been responsible for the growth and development of resource centres in the United States and the United Kingdom. It is contended that similar services, as described in what follows, would be of

inestimable value in the South African context which has lacked such support (see 3.5).

#### 9.7.1

##### CENTRAL PROCESSING

Teacher-librarians spend much of their time in processing resource materials. As indicated previously by Meiring (see 3.4.1) this was one of the benefits of the provincial library service in providing books for schools. If the processing of these materials can be completed for all schools, either through the existing provincial system where the facilities and experience already exist, or by a central processing unit for educational resources, the work of integration, innovation and individualisation will be able to proceed apace in the schools under the guidance of the teacher-librarian who will have the time to do so. The importance of this has been underlined by Darling (1980 : 98):

Freed from cataloguing and classification and from the mechanical preparation of materials, school media specialists [teacher-librarians] can devote vastly increased time to planning with teachers, to guiding the research, reading, listening and viewing of students, and to select appropriate new materials for purchase. It is in better service to students and teachers that centralised technical services most contribute to excellence.

It is recommended, therefore, that the central processing of all resource materials, on a provincial basis, be a top priority for resource centre development.

#### 9.7.2

##### AREA RESOURCE CENTRE

As emphasised elsewhere the resource centre needs support service lifelines if it is to survive and expand. Many resource materials are supplied from the United Kingdom and the United States and may not be suited to local requirements and it is becoming imperative that such materials be produced locally. An area resource centre with specific geographical boundaries and serving specific schools may be a solution. With a comprehensive full-time staff of graphic designers, editors and technical specialists and with the assistance of seconded practising teachers, high quality resources, matching teacher-pupil-curriculum needs, could be locally produced.

Thornbury (1979 : 26) describes the functions of such a centre as providing an in-service training centre; a media resources library and a publishing house. The nucleus of an area resource centre, as described, is already in existence with the Teachers' Centres and Centres for Educational Technology (see 4.10.1 & 2). By combining their functions and re-locating to suitable premises an Area Resource Centre

could emerge that would have a significant impact on the school resource centres it served. It is recommended that serious consideration be given to creating one such Area Resource Centre, on an experimental basis, to determine its support functions and its value in the promotion of resource-based learning.

If such an area resource centre is proved viable, a number of them could be established to cover each province and eventually be linked to a national network of area resource centres by means of computer, to enable the transmission of information and promote the development of individual school resource centres by sharing successful programs and knowledge about materials available.

### 9.7.3

#### RESOURCES SUPPORT GROUP

The researcher is of the the opinion that an outside support group similar to the one introduced by the Inner London Education Authority (see 4.10.12) would have a significant impact on the resource centre and the teachers. Such a support group of perhaps six people; a teacher-librarian, technician, graphics artist, a clerical assistant and two creative resources personnel, would permit equipment to be serviced or repaired; lettering and poster-making to be taught to pupils and teachers; catalogue cards, and

correspondence to be brought up-to-date; the creation of resources demonstrated to pupils and teachers and allow the teacher-librarian to consult with her colleague on problems and policies. The benefits of such a team spending a week at a time in a school would be considerable and is recommended as a means to boost enthusiasm in the resource centre and the services it is capable of providing. Such teams could be based at educational technology centres throughout the country and be particularly valuable for outlying areas which have no recourse to more sophisticated services and facilities and professional expertise.

9.8

#### DEMONSTRATION RESOURCE CENTRE

The researcher has found that where a resource centre has become well-known, either as a result of its impressive facilities or because it has had more experience in the field, other teacher-librarians wish to visit to view for themselves the facilities and procedures implemented. Consequently, it is felt by the researcher that demonstration resource centres be developed at existing schools where resource-based teaching has been well-received, if not resource-based learning. These centres, of necessity, will have to be given the best equipment and be supported by a wealth of resources either purchased overseas or produced locally. It is imperative that specialists

design packaged learning programs for one or two subjects to implement at these centres. Such a centre must be carefully planned from the beginning and the teachers must be completely involved, dedicated to individualised learning, prepared to design and implement their own curricula and enthusiastic about curriculum innovation and integration with the resource centre. It is appreciated that complete acceptance within an existing school is unlikely but a core of enthusiastic teachers may be sufficient to implement the practices for others to emulate when success is proven. Perhaps a concentration on only one or two subject areas would be a realistic starting point. The Knapp School Libraries Project in the United States was an outstanding example of the worth of demonstration centres and Sullivan (1968 : 6) highlights their significance:

One of the most important needs in school library [resource centre] development is for demonstration schools which set examples of quality school library services to pupils and teachers.

Demonstration resource centres are therefore recommended in the four provinces, as a means by which others can learn how to implement procedures in their own schools and may serve as learning centres for the testing of locally-devised resource programs.

9.9

RESEARCH UNIT

Overduin (1981a : 6) has recommended the creation of an independent research institution at a university for the development of a unified school media [resource] program. The planning of a demonstration resource centre; the development of learning resources, their implementation and evaluation in the field; and an investigation of resource centres (see 9.1), are other associated areas recommended for such a unit. For as Thornbury (1978 : 65) points out, 'a major difficulty in appraising resource organisation and its effects has been the lack of evaluation and assessment'.

In line with the recommendations previously outlined, and extending Overduin's proposal, it is suggested that such research units be established at particular universities in each of the provinces. Research unit co-operation it is hoped would follow when circumstances and mutual developments were in accord. There is considerable merit in the establishment of such research units and the researcher would like to give further support to this recommendation, first mooted by Overduin.

9.10

SERVICES INTEGRATION

Mulder (1981b : 33-34) has exposed the diversity of practices in relation to the provincial departments of education and the Department of National Education. The differences apply to types of catalogues, terminology, book selection, funds allocation and purchase of resources. Some departments prescribe that resources can only be purchased from supplied guides and others provide freedom of choice:

The selection of books is entirely the responsibility of the resource centre teacher and the principal, since no limitation is imposed by the department ... and can be chosen freely and bought according to need (Mulder, 1981a : 98).

Considering the exceptionally high qualifications required of the teacher-librarian the researcher is of the opinion that his/her professional standing should be acknowledged and the teacher-librarian should be free to choose resources linked to requirements and not prescribed by the relevant department (see Beswick, 1981 : 15). It is acknowledged that the guides supplied are useful sources of information for the teacher-librarian but prescription lowers the status of the teacher-librarian in the eyes of colleagues and may mean that justifiable purchases cannot be made for immediate need.

Departmental integration and unification of services is an urgent necessity, which is further exacerbated by the existence of separate divisions of educational technology and education library services in certain provinces (Job, 1984 : 79; 3.4.1). If such divisions are evident within departments it is difficult to promote integration of resources at school level and it is recommended that unification be urgently implemented through a clarification and rationalisation of functions to serve the resource centres in the schools to the best advantage.

Recommendations made on the provincial level, no matter from what source, can only be carried out where there is departmental unity in practice and where there is sufficient authority to confirm or reject proposals without undue delay. A unified policy for all the provincial departments of education is therefore recommended and an integration of educational technology and education library services where this has not yet been achieved.

## 9.11

### SUMMARY OF RECOMMENDATIONS

9.11.1 The creation of a set of standards for school resource centres, initially on a provincial basis, leading to the eventual formulation of a set of national standards.

- 9.11.2 The abolition of resource science [media guidance] and the demonstration of library [resource] skills and information retrieval techniques as a direct result of pupil and teacher need.
- 9.11.2.1 The teacher-librarian to work full-time in the resource centre with no teaching or extra-mural commitments or any other duties and responsibilities.
- 9.11.3 The head of the resource centre to be granted head of department status.
- 9.11.4 An empirical study on the role of the principal in the development of the resource centre.
- 9.11.5 A full-time teacher-librarian in every secondary school with a full-time technician and part-time clerical assistant.
- 9.11.6 A teacher-education program on the philosophy of resource-based learning and the implications for the resource centre.
- 9.11.7 The development of support services as outlined below:
  - 9.11.7.1 All resource materials for secondary schools to be centrally processed.
  - 9.11.7.2 The creation of an Area Resource Centre, on an experimental basis, to serve a number of schools and promote resource-based learning.

- 9.11.7.3 The establishment of a resources support group to spend a week in each school providing a variety of professional services.
- 9.11.8 The development of demonstration resource centres at specified schools to serve as examples of outstanding resource centre practice and innovation.
- 9.11.9 The implementation of research units, originally proposed by Overduin (1981a : 6), at particular universities in each of the provinces to investigate school resource centres, develop learning resources, implement them and subsequently evaluate them in practice.
- 9.11.10 The implementation of a unified policy for the provincial departments of education and the integration of educational technology and education library services where this has not yet been achieved.

9.12

#### CONCLUDING STATEMENT

The researcher considers it particularly relevant to emphasise that although national policies, programs, networks and mediated education are the ultimate objective for the full utilisation of resources and information, it is at the local level that initiatives will be of most

significance, especially if support can be given to the teacher-librarians who often feel isolated (Thornbury, 1979 : 90) because they are sometimes regarded as providing a peripheral service by their colleagues, some of whom do not understand what a teacher-librarian does to fill his/her day. Every teacher knows what business every other teacher is in, few are fully aware what the business is of the teacher-librarian.

#### THE WAY AHEAD

'A multi-media resources centre is a vital element in a modern school. It is also a complex organisation in its functions, its range of stock and its staffing, involving as this does a wide range of skills not previously brought together. There have been cases in the past where pride or prejudice at professional level have prevented the resource[s] centre from fulfilling its purpose. Happily there are now more and more instances where teachers and librarians are working together, each respecting the professionalism of the other and both committed to achieving a common objective. These are the resource[s] centres which achieve full potential' (Paton, 1976 : 52).

GLOSSARY

The definitions given are from a variety of sources, as indicated, but the majority are cited from:

PERCIVAL, F & ELLINGTON, H (1984) A Handbook of Educational Technology. London: Kegan Paul, p 159-214.

**AFFECTIVE DOMAIN** : One of the three broad sets into which Bloom and his colleagues classify learning objectives, containing all those connected with attitudes, feelings values.

**AGNOSTICISM** : The view that we do not know whether there is a god or not (Kesting, 1984 : 185).

**AIMS** : The desired outcome of an exercise, programme, etc. expressed in general terms.

**ATTITUDE SCALE** : A linear instrument designed to assess a person's attitudes to a specific issue, phenomenon, etc. by determining his position on some form of rating scale.

**AUDIOVISUAL** : Specifically a term used to describe instructional materials or systems which are both sound and vision : more generally, a term used to describe all educational communications media.

**AUDIOVISUALIST** : One who specialises in the use of audio-visual resources in education.

**AUTONOMOUS LEARNER** : A student who controls the selection and content of his learning material and who also has control over his pace of learning.

**BEHAVIOURAL INSTRUCTION** : A term that is sometimes applied to instructional systems such as the "KELLER PLAN" when the learning process is based on mastery of successive units, with testing and tutoring carried out largely by the learners themselves, or by monitors.

**BEHAVIOURAL OBJECTIVE** : A precise statement indicating the performance expected of a learner (in terms of specific skills) as a result of exposure to given instructional material.

**BIBLIOGRAPHIC TOOLS** : The principal reference works used as sources of information on specific subjects.

**BOOK EDUCATION** : The use of library information sources as set out in a prescribed syllabus to be covered by Standard 6 and Standard 7 pupils in government schools. See MEDIA GUIDANCE.

**CARREL** : A small enclosed space in a ... resource centre ... designed for individual or private study. A 'wet' carrel is one supplied with power.

**CHART** : A visual summary of processes or relationships.

**CHRONOLOGICAL AGE** : An individual's physical age expressed in years and months.

**CLOSED ACCESS** : The use of resource materials and equipment is restricted in some degree.

**CLOSED QUESTION** : A question requiring a unique answer.

**COGNITIVE DOMAIN** : One of the three broad sets into which Bloom and his colleagues classify learning objectives, containing all those associated with the acquisition of knowledge or knowledge-related skills.

**COMPUTER-AIDED (ASSISTED) INSTRUCTION (CAI)** : Use of a computer as an integral part of an instructional system, the learner generally engaging in a two-way interaction with the computer via a terminal.

**COMPUTER-AIDED (ASSISTED) LEARNING (CAL)** : Learning with the aid of a computer through computer simulations, etc.

**CONTINUOUS EDUCATION** : Education throughout one's life. See education permanente.

**CONVERGENT THINKING** : A rational, systematic approach to problem-solving, normally leading to the single correct or most logical solution.

**CORE CURRICULUM** : Basic elements in a course that have to be taken by all students.

**DATA-BASE** : A collection of data ... held on file and available for extraction or reference, usually via a computer terminal.

**DISCIPLINISM** : The theory which maintains that it is not the thing learned but the process of learning that is important (Wilds & Lottich, 1970 : 287).

**DISCOVERY LEARNING** : A method of instruction that attempts to teach principles ... by providing the learner with a set of experiences from which it is hoped he will arrive at the principles by the process of induction.

**DIVERGENT THINKING** : A creative approach to solving problems and tackling tasks which produce a range of solutions.

**DUALLY QUALIFIED** : A person with professional qualifications in teaching and librarianship.

**EDUCATION PERMANENTE** : Continuing education throughout life.

**EDUCATIONAL BROADCASTING** : Television or radio broadcasting whose primary aim is to educate, or assist in the education of, its viewers or listeners.

**EDUCATIONAL MEDIA** : The provision of audio-visual materials and services to classroom teachers on demand for enrichment of the curriculum and teaching functions. Control is nearly always invested in the teacher.

**EDUCATIONAL TERMINOLOGY** : A systematic approach to education that is usually based on clearly stated learning objectives intended to maximise individual attainment for learners.

**EDUCATIONAL TELEVISION** : A broadcast or closed-circuit television program or system whose main purpose is education or cultural development.

**ELEMENT** : That unit about which information is collected and which provides the analysis (Babbie, 1973, 79).

**EMPIRICISM** : The theory which regards sense perception as the sole test of knowledge (Kesting, 1984 : 221).

**EPISCOPE** : A device designed to project images of opaque, flat objects on to a screen by using light scattered from the object.

**EQUIPMENT** : See **HARDWARE**.

**EVALUATION** : A series of activities designed to measure the effectiveness of a teaching-learning system as a whole.

**FACILITATOR** : A group discussion leader whose primary function is to act as a catalyst in stimulating discussion rather than providing information.

**FEEDBACK** : The information received by a learner immediately after each of his responses during a sequence of programmed instruction.

**GAME** : Any contest or exercise in which adversaries (players) operate under constraints (rules) for an objective (winning, victory).

**GEOCHRON** : An item of equipment which depicts the chronology of the earth's history as determined by geological events and provides information on world time zones for immediate time calculations world-wide.

**HANDS-ON EXPERIENCE** : The practical experience gained from using equipment.

**HARDWARE** : A generic term for a piece of equipment used to handle or transmit information stored on materials of some sort.

**HAWTHORNE EFFECT** : The tendency for the output or achievement of a group of adults or children to rise when members become aware that they are of particular interest to an investigator. Such special attention is apt to increase their motivation to succeed.

**HEAD START PROGRAM** : An enrichment program of environmental stimulation of pre-schoolers who are educationally disadvantaged as a result of poor home conditions

**HEURISTIC** : A term used to describe a method of instruction or problem solving that involves using successive evaluations of trial and error in an attempt to arrive at a final result.

**HOUSEKEEPING ROUTINES** : Daily administrative tasks required of the teacher-librarian in running the resource centre.

**HUMANISM** : Any view which considers the well-being of man in this life, as opposed to the next, to be of primary importance (Kesting, 1984 : 259).

**HUMANIST PSYCHOLOGY** : A school of psychology that emphasises the concepts of 'self' and 'person' and the study of man's 'humanness' in an holistic manner.

**IDEALISM** : The view that no external realities exist apart from our consciousness of them, the whole universe thus being dependent on the mind (Kesting, 1984 : 243).

**INDEPENDENT LEARNING** : An instructional system in which learners, carrying on their studies without attending formal classes, consult periodically with instructors or tutors for direction and assistance.

**INDIVIDUAL LEARNING** : An overall term for a pupil working alone, as opposed to working with a group (Waterhouse, 1983 : 15).

**INDIVIDUALISED INSTRUCTION, TEACHING, LEARNING** : The tailoring of instruction, teaching or learning to meet the needs of the individual learner.

**INFORMATION** : Facts which are available from source material and when assimilated by users become knowledge (De Wet, 1985 : 56).

**INFORMATION TECHNOLOGY** : The technology associated with the creation, storage, selection, transformation and distribution of information of all kinds.

**IN-HOUSE PRODUCTION** : Resources produced within a school by teachers or pupils.

**INSTRUCTIONAL MATERIALS CENTRE** : A centre for providing materials to staff for teaching groups of students : service to the individual student was not included (Hicks & Tillin, 1970 : 4).

**INTER-DISCIPLINARY EDUCATION** : The linking of subject disciplines to cover a chosen field.

**JACKDAW KIT** : An historical learning package of pamphlet material, concerning a person or event, reflecting the time period.

**KELLER PLAN** : A type of individualised learning strategy based on the self-paced study of (mainly) written material backed up by tutoring and monitored by means of mastery tests at the end of each unit.

**KIT** : A collection of resources, involving more than one type ..., that are subject-related and intended for use as an instructional unit.

**KNOWLEDGE** : Information which has been acquired or assimilated by a user and has thereby acquired meaning (De Wet, 1985 : 56).

**LEARNING PACKAGE** : A self-contained collection of subject-related materials accompanied by specific instructions for learner use.

**LEARNING STYLE** : The preferred mode of problem-solving, thinking or learning that is employed by an individual.

**LOCKSTEP** : The treating of all students within an age-grade as identical.

**MASTERY LEARNING** : The theory that mastering of a topic, subject, field is (in principle) possible for all individuals provided that the appropriate amount of teaching time and the optimum quality of instruction are given to each student.

**MEDIA :** (a) the physical tools of educational technology including printed words, film, tape, records, slides and the various combinations thereof:  
 (b) the various channels of mass communication, including the press, radio and television.

**MEDIA AIDE :** A person who performs clerical and secretarial tasks and assists as needed with materials and equipment (ALA, 1975 : 110).

**MEDIA EDUCATION :** The study, learning and teaching of, and about, the modern media of communication and expression as a specific and autonomous area of knowledge within educational theory and practice distinct from their use as aids for the teaching and learning of other areas of knowledge, such as mathematics, science and geography (Bennett, 1977 : 25-26).

**MEDIA GUIDANCE :** The extension of the book education syllabus to include the use of audio-visual materials.

**MEDIA RESOURCES OFFICER :** A qualified member of the non-teaching staff of the Inner London Education Authority responsible for advising teachers on the use and role of media resources in the teaching situation and the best method of presenting this material to their pupils.

**MEDIA SPECIALIST :** The person responsible for the [media] resource centre in a school.

**MEDIATED EDUCATION :** Educational programs transmitted by radio or television.

**MENTAL AGE :** An estimate of the intellectual development of an individual given in terms of the chronological age of the average population to which he is equivalent in intellectual terms.

**MICROCOMPUTER :** A small, portable computer based on microcircuit technology.

**MICROFORMS :** Reproductions in miniature on transparent or opaque stock, of printed materials. Reduction varies but is usually about 1/20th original. The various forms include microfilm and microfiche, both transparent and microcard and microprint, both opaque. They require micro-readers to magnify the print for normal reading (Hicks & Tillin, 1970 : 140).

**MINIMAX SOLUTION :** Reconciliation of conflicting demands. In plain language this means that when you can't have everything, you must try to make the most of what you've got (Oettinger, 1969 : 165).

**MODEL** : A physical or conceptual representation of an object or system, incorporating certain specific features of the original.

**MODULE** : (a) An organised collection of learning experiences assembled in order to achieve a specified group of related objectives.  
(b) A self-contained section of a course or program of instruction.

**MODULAR COURSE** : A flexible course that allows individual learners to select the course program that best suits them from a structural hierarchy of modules, some of which are compulsory and some optimal.

**MULTI-MEDIA** : Different kinds of media or resources used at the same time.

**MULTI-MEDIA KIT** : A package of materials in several media dealing with a specific topic or subject area and forming an integrated whole.

**MULTIPLE RESPONSE ITEM** : An item in an objective test of the multi-choice type in which two or more responses are correct.

**NATURALISM** : The natural world is the whole of reality and man is simply part of nature (Kesting, 1984 : 183).

**NETWORK** : An interconnection of things, systems or organizations (Becker & Olsen, 1968 : 288).

**NON-BOOK MATERIALS** : Media that carry or transmit information or instructions by sound, pictorial representation, projected images, etc.

**NON-PRINT MATERIALS** : As above.

**OBJECTIVE** : A desired outcome of an instructional process or program expressed in highly-specific terms.

**OPEN ACCESS** : Resource materials and equipment are issued to teachers and pupils for a pre-determined time period.

**OVERLAY** : A transparent sheet which registers over another sheet or transparency, giving additional or alternative information.

**PEER GROUP** : A group of individuals sharing similar age, background, qualifications.

PEER TUTORING : A technique in which the tutoring of learners ... is done by other learners, usually either older or the same age, who have already met the learning objectives involved.

POPULATION : The theoretically specified aggregation of survey elements (Babbie, 1973 : 79).

PRAGMATISM : The doctrine ... that the test of the value of any assertion lies in its practical consequences (Kesting, 1984 : 248).

PROGRAMMED INSTRUCTION, LEARNING : A general term for instruction or learning that takes place in a systematic, highly structured manner, generally in a step-by-step fashion with feedback taking place between steps.

PROJECT METHOD : A method of instruction in which learners (individually or in groups) carry out projects, working largely free of supervision or control.

PROJECTOR : A generic term for devices used to form images on external screens by optical means.

PUPIL TUTORING : See PEER TUTORING.

RADIOVISION : An audiovisual instructional system which uses special filmstrips, booklets or other visual material linked with radio broadcasts.

RATE TAILORING : Educational program geared to the individual pupil, in that each pupil is working through the same program at his own pace.

RATIONALISM : The theory that reason is the sole source of knowledge (Kesting, 1984 : 169).

REALIA : Real objects. In a teaching-learning situation they are used to relate instruction to real life (Hicks & Tillin, : 159).

REALISM : The view that material objects exist externally to us and independently of our sense experience (Kesting, 1984 : 243).

RELIABILITY : A measure of the consistency with which an item, list, examination, etc. produces the same results under different but comparable conditions.

REPROGRAPHY : A term embracing all copying and microcopying processes using any form of radiation (including heat), all duplicating and office printing processes, and all ancillary operations connected with such processes.

RESOURCE : Any object, person or strategy stimulating learning (Thornbury, 1979 : 21).

RESOURCE(S) CENTRE : (1) An organisation, not necessarily in one physical place that organises, classifies and controls teaching and/or learning resources as appropriate (Beswick, 1972 : 5).  
 (2) An agency for stimulating the active creation and use of a resource collection, including the six elements of:  
 (a) production of home-made resources.  
 (b) selection and acquisition of the resources.  
 (c) classification and indexing for retrieval.  
 (d) storage.  
 (e) use; including guidance and lending.  
 (f) evaluation and weeding (ibid).

RESOURCE MATERIALS : (a) The basic components of a package used in an exercise, program or course.  
 (b) A general term for resources and instructional materials used by learners or teachers.

RESOURCE SCIENCE : A prescribed syllabus to be taught to Standards 6 and 7 covering the use of information sources and of audio-visual materials. (See also book education and media guidance.)

RESOURCE-BASED LEARNING : Learning outcomes achieved by the pupil as a result of utilising resources provided by a resource centre. It assumes a structured learning system, with educational objectives, programmed course content, feedback and evaluation (Beswick, 1972 : 10).

RESOURCE-BASED TEACHING : Learning outcomes achieved by the pupil by means of resources under the direction or control of the teacher who has initiated their use.

ROLE PLAY : A technique (used in games and simulations) in which participants act out all the parts of other persons or categories of persons.

SAMPLING FRAME : The actual list of sampling units from which the sample is selected (Babbie, 1973 : 81).

**SIMULATION** : A theoretical model of a process or a relationship in which a given set of data will determine a given set of results which closely approximate what happens in the real world (Lewis, 1970 : 140).

**SOFTWARE** : A general term for material which is used in conjunction with items of equipment.

**SPECIMEN** : A part or sample of a real object (Hicks & Tillin, 1970 : 170).

**STUDENT CONTRACT** : Behavioural objectives formulated by student and teacher as a basis for a 'contract' to be completed within a time limit worked out according to a student's ability and mutually agreed upon (Callaghan & Clark, 1977 : 42).

**SUBJECT BLINKERS** : A subject orientation of resource materials prevents teachers seeing the relevance of such materials to other teachers and pupils.

**SUPPORTED SELF-STUDY** : An arrangement whereby a school pupil is given the opportunity to work outside the confines of the class and the time-table, using resources carefully chosen for self-study, and supported at regular intervals by the guidance and tutoring of a teacher (Waterhouse, 1985 : 29).

**SURVEY POPULATION** : That aggregation of elements from which the survey sample is selected (Babbie, 1973 : 80).

**SYSTEMS APPROACH** : The identification of objectives and the design of appropriate learning experiences to attain them, followed by their implementation, subsequent evaluation and improvement of the design (Beswick, 1977 : 41).

**TAPE-SLIDE PROGRAM** : A presentation in the form of a slide sequence with synchronised audio-tape.

**TEAM TEACHING** : A teaching technique in which two or more teachers share responsibilities for a given instructional program with the same group of learners.

**TECHNOLOGY OF EDUCATION** : The systematic application of the resources of scientific knowledge to the process that each individual has to go through in order to acquire and use knowledge (Maddison, 1983 : 31).

**TECHNOLOGY IN EDUCATION** : Thinking chiefly concerned with equipment, the elaboration of 'ad hoc' messages and the incorporation of technology into traditional teacher-centred activities (Maddison, 1983 : 31).

TELETEXT (BROADCAST VIDEOTEXT) : A limited number of pages of information are incorporated into ordinary television transmissions and can be 'called up' by owners of receivers that incorporate the decoding facilities: the United Kingdom CEEFAX and ORACLE systems are examples.

TELEVISION MONITOR : An electronic device which translates television signals into pictures on a cathode ray tube screen and sound; a monitor differs from a television receiver in that the signal is generally fed in by cable and the picture quality is higher.

TRANSPARENCY MAKER : A machine which transfers a photocopied image onto a transparency sheet by means of a heat process.

UNITS OF ANALYSIS : The things under study in a given survey (Babbie, 1973 : 59).

UNIVERSE : The theoretical and hypothetical aggregation of all elements (Babbie, 1973 : 79).

USER-FRIENDLY : A term normally used in relation to computers to indicate they are easy to use for non-technical persons.

VALIDITY : The extent to which a test or other measuring instrument fulfils the purpose for which it is designed.

VARIABLE : A set of mutually exclusive characteristics such as sex and age.

VIEWDATA (INTERACTIVE VIDEOTEXT) : The user is connected to a computer data-base by cable (telephone line) and can therefore interact directly with the data-base. An example is the United Kingdom PRESTEL system.

WORKSHOP : A practical session designed to illustrate the underlying principle, logistics or mechanics of an exercise, or program without necessarily working all the way through it.

#### ABBREVIATIONS

ALA	-	AMERICAN LIBRARY ASSOCIATION
LA	-	LIBRARY ASSOCIATION
CET	-	COUNCIL FOR EDUCATIONAL TECHNOLOGY
SCET	-	SCOTTISH COUNCIL FOR EDUCATIONAL TECHNOLOGY
UNESCO	-	UNITED NATIONS EDUCATIONAL, SCIENTIFIC AND CULTURAL ORGANISATION

APPENDIX 1      MEDIA CENTRE PLAN



APPENDIX 2 100 REPRESENTATIVE MEDIA CENTRE TASKS

## REPRESENTATIVE CENTER TASKS

The Task Analysis Survey Instrument in *School Library Personnel Task Analysis Survey* (Special Report of the Research Division, NEA) identifies more than 300 tasks for a school library media center staff. Well-developed centers with adequate staff will carry out most of the tasks; at least one-third of the tasks are essential in the operation of even the smallest program with the least amount of staff.

The following 100 representative tasks are excerpted from the NEA survey. The list is divided among the three main categories of media

center personnel: professional, paraprofessional, and nonprofessional. Tasks may be interchangeable among the staff, depending on the local situation. As a general rule, however, even with only two or three staff persons, all tasks will be covered, some minimally. As the staff size increases in response to an effective program, that is, when an audiovisual specialist, media specialist, or clerk is added, the coordinator will increasingly assume the tasks that are starred (\*), the media specialist will assume those designated *M*, and the audiovisual specialist, and in certain cases a technician, will take on those designated *A*. The remaining tasks are chiefly clerical and, as has also been plainly stated in the national standards, are assumed by a clerk or technician on a large staff. There is no one way in which these tasks and the many other service-related functions can be specified; the pattern ultimately depends on the nature of the program and the competencies and interests of the staff. However, tasks for each category are given in the next section; each school library media center should use them as samples in constructing workable ones for the specific situation.

## 100 Tasks

The asterisk and letter symbols for the professional staff in the following list indicate tasks that will be increasingly assumed by certain persons as staff size increases in response to an effective program:

- \* = coordinator
- M = school library media specialist
- A = audiovisual specialist, and in some cases a technician

### *Professional Staff*

- \* Determine educational objectives of school library media center policies.
  - \* Plan programs and center operations and maintenance.
  - \* Help determine overall school library media center policies.
  - \* Assist in selecting center staff.
  - \* Prepare work schedules for center staff.
  - \* Supervise work of professional and nonprofessional staff.
  - \* Work with and submit reports to administration.
  - \* Determine records and statistics needed.
  - \* Enlist faculty in writing a materials selection policy.
  - \* Establish cataloging and classification policies.
- 
- \* Plan for reorganization and relocation of collections.
  - \* Formulate policies and procedures for circulating materials and equipment.
  - \* Assume responsibility for decisions concerning disciplinary actions.
  - \* Develop handbook for teachers and students.
  - \* Work with teachers to establish procedures for group or individual assignments.
  - \* Inform faculty of available in-service courses, workshops, professional meetings, and the community's educational resources.
  - \* Promote use of professional library.
  - \* Plan and participate in community relations activities.
  - \* Visit other schools and participate in professional meetings.
  - \* Determine policy for accepting gifts.

- M/A Enlist faculty participation and recommendations in evaluating or selecting materials.**
- M/A Develop evaluation forms.**
- M/A Read books, magazines, professional journals, review services, and local publications for information on selecting materials and equipment.**
- M/A Evaluate and select materials and equipment.**
- M/A Organize and maintain reserve and special media collections.**
- M/A Plan the system for scheduling and delivering materials and equipment.**
- M/A Compile media lists.**
- M/A Administer interlibrary loan services.**
- M/A Perform general reference services.**
  
- M/A Schedule use of facilities.**
- M/A Conduct in-service work.**
- M/A Participate in curriculum development and review.**
- M/A Train student aides and volunteers.**
- M/A Initiate projects and activities relating to media resources.**
- M/A Originate and conduct special activities for interest groups.**
- M/A Maintain in the media center schedules of class activities.**
- M/A Orient students to center.**
- M/A Plan sequential programs of instruction in research techniques.**
- M/A Inform teachers of new services.**
- M/A Introduce teachers to bibliographic tools in subject and grade-level areas.**
- M/A Outline publicity; write articles, promotional materials, and notices for school and local papers.**
- M/A Work with teachers and students in reading, viewing, and listening activities.**
- M/A Plan with faculty members to coordinate materials and media activities.**
- M/A Observe classroom work to coordinate with media center program.**
- M/A Participate in team teaching.**

### *Paraprofessional Staff*

- Develop new uses for materials and equipment.
  - Work with teachers to design innovations in instruction.
  - Help to determine space for equipment to be purchased.
  - Develop evaluation forms.
  - Adapt commercial materials and equipment to meet special needs.
  - Design publicity materials in all media.
  - Make simple display devices for use in instruction.
  - Operate lettering and drawing devices.
  - Microfilm materials.
  - Produce specialized materials for school needs (tapes, record programs, etc.).
  - Handle photography and film course and recreation-related media center work.
  - Maintain dial-access and computer equipment and programs.
  - Provide for preparation of materials (laminating, making transparencies, etc.).
  - Make major repairs of equipment if not under service contract.
  - Evaluate students' special school library media center projects.
  - Assist with independent study.
  - Assist teachers and students in locating and selecting materials and equipment.
- 
- Assist teachers and students in using equipment and materials.
  - Assist teachers and students with taping services.
  - Assist teachers and students with production techniques.
  - Answer simple reference questions.
  - Plan and prepare displays.
  - Plan and supervise media fairs.
  - Develop forms for operation of the center in area of specialization.
  - Maintain materials and equipment evaluation file.
  - Perform routine print-shop activities.
  - Schedule use of and deliver materials and equipment.
  - Maintain cumulative records of condition of and maintenance work on equipment.

### *Nonprofessional Staff*

Determine need for, control, order, inventory, and maintain supplies.

Handle clerical and secretarial work of correspondence (filing, typing, mailing, etc.).

Type notices, requisitions, bulletins, mediagraphies, and so forth.

Assist in sale of paperback books.

Perform messenger service.

Maintain selection aids for finding new materials.

Check shelf list and other aids to prepare bibliographic data for ordering and duplicating materials.

Transact clerical business operations: file orders and invoices; receive credit memoranda and invoices and transmit them to appropriate office; verify total purchase costs; follow up outstanding orders.

Unpack and check new materials and equipment received, and verify invoices with shipment and order.

Post receipt of periodical and newspaper issues and take care of missing items.

Prepare items received for use.

Stamp ownership mark on all materials.

Place subject headings on vertical file folders.

Adapt commercial catalog cards for local use.

---

Prepare and file shelf-list and catalog cards.

Sort and place materials on shelves or in containers and keep them in reasonable order.

Process records for materials and equipment withdrawn from collection.

Compile and revise media book catalogs.

Compile review files for materials and equipment.

Maintain media inventory records and assist in inventory.

Set up and operate audiovisual equipment, such as projectors and video readers.

Inspect and make necessary repairs to print and nonprint materials and equipment.

APPENDIX 3 . EVALUATION CRITERIA - BOOKS

## EVALUATION CRITERIA

To assist professional staff and students at the local school level in the evaluation and selection of instructional materials, the division has developed a series of guidelines or criteria for use for various types of materials. These guidelines are printed in the division's *Handbook* and are available in each school. The criteria stress that the most important objective in all evaluation procedures is to locate and make available the most suitable materials in the various subject areas. Additional pointers stress the following in the evaluation process: (1) quality in relation to quantity, (2) appropriateness to a particular grade level, (3) authenticity, (4) contribution to learning, and (5) good value in terms of purchase price. These pointers, reworked in question format, are the general criteria that have been adopted for the evaluation of instructional materials in Montgomery County.

### GENERAL CRITERIA FOR THE EVALUATION OF INSTRUCTIONAL MATERIALS

- I. Is the material authentic?
  - A. Is the material factually accurate?
  - B. Is the material up-to-date?
  - C. Are the author and/or producer well qualified?
- II. Is the material appropriate?
  - A. Does it promote the educational goals and objectives of the curriculum of Montgomery County?
  - B. Might the material be considered objectionable?
  - C. Is it appropriate to the level of instruction intended?
    1. Is the vocabulary appropriate?
    2. Are the concepts appropriate?
    3. Are the methods of development appropriate?
  - D. Is controversial material presented impartially?
  - E. Is this material suitable to the curriculum?
  - F. Does this material present information that currently approved sources do not?
  - G. Does this material give a new dimension or direction to currently approved sources?
- III. Will the material catch and hold the interest of the users?
  - A. Will the material stimulate the curiosity of the user?
  - B. Can the material be used to satisfy curiosity?
- IV. Is the cost of the material justified?

### NONFICTION AND TEXTBOOKS

- I. *Purpose*
  - A. What is the over-all purpose of the book?
  - B. How well is the purpose accomplished?
  - C. For whom is it intended?
- II. *Author and Publisher*
  - A. Is the author competent and qualified in the field?
  - B. What is the reputation and significance of the author and publisher in the field?
- III. *Authenticity*
  - A. Is the material factually accurate and objective in presentation or is it an authentic presentation of a particular point of view?
  - B. Is the material up-to-date?
  - C. Are information sources well documented?
  - D. Are translations and retellings faithful to the original?
- IV. *Appropriateness*
  - A. Does the material promote the educational goals and objectives of the curriculum of Montgomery County?
  - B. Is it appropriate to the level of instruction intended?
    1. Is the vocabulary appropriate?
    2. Is the presentation of concepts appropriate to the ability and maturity of the student?
    3. Illustrations:
      - a) Are they appropriate to the subject and age level?
      - b) Do they portray realistic human qualities?
      - c) Do they avoid stereotypes?
    4. Are the methods of development appropriate?
      - a) Are a logical scope and sequence developed?
      - b) Is it readable, clear, and appropriate for the level and subject?
      - c) Does it have literary merit?
  - C. With respect to controversial material
    1. Are the sources, purposes, and points of view readily identifiable?
    2. Is prejudicial appeal readily identifiable? Excessive emotionalism?
    3. Are other materials available that present different and representative points of view concerning the problems and issues?
  - D. Is the interest level appropriate to the user?

## V. Content

- A. Is the content of this material well presented by providing adequate scope, range, depth, and continuity?
- B. Have the principles of learning been followed in developing the material, e.g., reinforcement-transfer?
- C. Is the material in each chapter presented logically and clearly?
- D. Does the material achieve its stated purpose?
- E. Does this material present information not otherwise available?
- F. Does this material give a new dimension or direction to its subject?
- G. Where appropriate, does it treat minority groups in a way that highlights their problems and their contributions?
- H. Is the content clearly outlined in the table of contents?
  1. Is the pagination definite and clear?
  2. Are chapter titles and subtitles clearly outlined?
- I. Is appended material useful?
- J. Are pupil aids to learning provided?
  1. Is there a glossary?
  2. Are aids to pronunciation and meaning provided?
  3. Are summaries and reviews provided where appropriate?
  4. Are exercises and activities appropriate and provocative?
  5. Are a variety of related materials listed?
- K. Is the index adequate for pupils at the level for which book is intended?
- L. Do the visual aids, e.g., pictures, maps, graphs, charts contribute to the development of the text?
  1. Are they attractive?
  2. Are they placed for greatest usefulness?
  3. Are they adequate in number?
  4. Where appropriate, are the illustrations multiethnic and free from stereotype?
- M. Is the copyright date a significant factor in evaluating usefulness of content?

## VI. Technical Quality

- A. Is the size of the book appropriate for use at the interested level?
- B. Is the binding durable and strong?
- C. Is the binding sewn?
- D. Is the cover attractive?
- E. Is the paper durable and opaque?
- F. Is the typography clear and easy to read?
- G. Is the type size appropriate for the level intended?
- H. Are the page layouts well designed?
- I. Is the space between the lines appropriate for the level intended?

## J. Illustrations

1. Is the art or photographic quality acceptable (sharpness, composition, distortion, color)?
2. Is there a good balance between artistic technique and educational need?
3. Are the captions readable?
4. Are the illustrations and captions suitable for teaching and learning purposes?
5. Are illustrations located properly for greatest usefulness?
6. Are the illustrations adequate in number?

## VII. Supporting Opinion

- A. Does it appear on one or more reputable book lists or selection aids?
- B. Has it been favorably reviewed by experts in the field?

## VIII. Supplementary Information for Textbooks

- A. Are teacher's aids provided?
- B. Are teaching suggestions practical and provocative?
- C. Does teacher's guide strengthen presentation of textual material?
- D. Is a useful bibliography provided for teachers?
- E. Are evaluation programs provided?

Guidelines have also been adopted for evaluating instructional equipment. It is stressed that such evaluation should include the judgment of those who are to use the equipment and should be a group evaluation when possible. Specifications relating to basic construction and safety features of equipment are verified by the Department of Educational Media and Technology and the Division of Procurement before the equipment is submitted for formal evaluation for school use. In a testing situation, the following procedures are recommended, when appropriate.

1. Demonstrations of competitive equipment under identical conditions
2. Demonstrations of specific equipment under varying light and sound conditions
3. Actual tryout of equipment for an extended period of time
4. Application of directions given in the manual to determine clarity of directions, ease of operation, and simplicity of maintenance
5. Continuous operation of equipment for a few hours to check temperature and any other critical operating characteristics
6. Actual practice in cleaning, adjusting, dismantling, and reassembling equipment where professional maintenance is not required.

Because of the great variety of equipment in various areas (e.g., physical education, instrumental music, etc.), specific criteria have as yet been developed only for the major forms of equipment. This is the checklist that is used for audio, visual, and audiovisual equipment:

APPENDIX 4      EVALUATION CRITERIA - CHARTS, FILMS,  
SLIDES, TRANSPARENCIES, GLOBES, MAPS,  
TAPES, RECORDS, PICTURES AND PRINTS

## CHARTS

	Yes	No	NA
I. Is the content of this material well organized and well balanced?			
A. Is the material presented logically and clearly?			
B. Does the material achieve its stated purpose?			
C. Does the chart aid conceptualization of subject matter?			
D. Is the content presented as clearly and simply as possible for the level intended?			
E. Is material arranged in logical sequence?			
F. Are charts presented in a series?			
G. Is the scale or size such that comparisons can be made between or among charts?			
H. Are symbolizations adequately explained?			
<hr/>			
II. Is the technical quality of this material acceptable?			
A. Is printed material sharply and clearly defined?			
B. Are the media used durable and opaque?			
C. Is some provision made for display?			
1. Are the charts provided with wall attachments?			
2. Are the charts mounted on a tripod or other floor display holder?			
3. Is the holder easy to manipulate?			
4. Does the holder take only a reasonable amount of space?			

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## FLAT PICTURES AND STUDY PRINTS

	Yes	No	NA
I. Is the content of this material well organized and well balanced?			
A. Is the material presented logically and clearly?			
B. Does the material achieve its stated purpose?			
C. Do the colors used (include black and white) contribute to learning?			
D. Is the size commensurate with the purpose for which it is intended?			
E. Has the composition been planned to illustrate or emphasize the intended purpose?			
F. Is explanatory material provided?			
G. Are the captions a good interpretation of the material yet not distracting?			
H. Is there a recognizable sequence if the picture is a part of a series?			
I. Is the material such that it will not be out of style too quickly?			
<hr/>			
II. Is the technical quality of this material acceptable?			
A. Is the definition sharp and clear?			
B. Are the color reproductions accurately registered?			
C. Is the base material durable and opaque?			
D. Is the surface as nonreflecting as possible?			
E. Is the material constructed so as not to curl, split, or tear easily?			

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**FILMS, FILMSTRIPS, CARTRIDGE FILMS,  
SLIDES, AND TRANSPARENCIES**

	Yes	No	NA
I. Is the content of this material well organized and well balanced?	_____	_____	_____
A. Have the principles of learning been followed in developing the material, e.g., reinforcement—transfer?	_____	_____	_____
B. Is the material presented logically and clearly?	_____	_____	_____
C. Is the sequence developed adequately?	_____	_____	_____
D. Are data sufficiently comprehensive to be useful?	_____	_____	_____
E. Is the content appropriate for this type of presentation?	_____	_____	_____
F. Is the material imaginative when imagination is really needed?	_____	_____	_____
G. Is the quality of the script or commentary satisfactory?	_____	_____	_____
H. Is the music or background satisfactory?	_____	_____	_____
I. Are the titles, labels, or captions appropriate?	_____	_____	_____
J. Is all material essential?	_____	_____	_____
II. Is the technical quality of this material acceptable?	_____	_____	_____
A. Is the visual image satisfactory?	_____	_____	_____
1. Is the photography clear and artistic?	_____	_____	_____
2. Does it have enough close-ups?	_____	_____	_____
3. Are printed items adequate in size?	_____	_____	_____
B. Is the quality of sound clear and intelligible?	_____	_____	_____
C. Is color used effectively?	_____	_____	_____
D. Are sound and visual image synchronized?	_____	_____	_____

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**GLOBES**

	Yes	No	NA
I. Is the content of this material well organized and well balanced?	_____	_____	_____
A. Is the material presented logically and clearly?	_____	_____	_____
B. Does the material achieve its stated purpose?	_____	_____	_____
C. Are latitude and longitude lines or indicators provided?	_____	_____	_____
D. Are color symbolizations pleasing but distinctive in quality?	_____	_____	_____
E. If raised-relief techniques are used, is vertical exaggeration excessive?	_____	_____	_____
II. Is the technical quality of this material acceptable?	_____	_____	_____
A. Will materials used in the construction of the globe resist denting and breakage?	_____	_____	_____
B. Are jointures on globes smooth and relatively unnoticeable?	_____	_____	_____
1. Are map segments well registered?	_____	_____	_____
2. Are places where parts of a globe are jointed in construction prominent?	_____	_____	_____
C. Is the base firm and heavy enough to resist tipping in use?	_____	_____	_____
D. Will connections of movable parts wear well?	_____	_____	_____
E. Is there an axis provided for the globe?	_____	_____	_____
F. Is a place provided for the storage of an axis pin if it is removable?	_____	_____	_____
G. Is the surface soil-resistant and cleanable?	_____	_____	_____
H. Is the surface made to be marked upon?	_____	_____	_____

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## MAPS

Yes No NA

- |   |       |
|---|-------|
| I. Is the content of this material well organized and well balanced?                                      | _____ |
| A. Is the material presented logically and clearly?   | _____ |
| B. Does the material achieve its stated purpose?  | _____ |
| C. Is the projection suitable for use at the level intended?  | _____ |
| D. Is the projection suitable for the content to be shown?  | _____ |
| E. Is the map scale suitable for the purpose intended?  | _____ |
| F. Is the legend adequately and clearly presented?  | _____ |
| G. Are color symbolizations pleasing but distinctive in quality?  | _____ |
| H. If raised-relief technique is used, is vertical exaggeration in good proportion?                       | _____ |
| I. Are latitude and longitude clearly delineated?   | _____ |
| J. Are contents dated when this is a significant factor in their utilization?                             | _____ |
| K. Are the contents developed on a comparable basis if the map is part of a series?                       | _____ |
| L. Is the detail appropriate to the intended use?   | _____ |
| <hr/>   |       |
| II. Is the technical quality of this material acceptable?   | _____ |
| A. Is the durability of the material upon which the map is reproduced adequate for the purposes intended? | _____ |
| 1. Is the map constructed so it will not curl along the edges?  | _____ |
| 2. Is the map constructed of a material that will not crack, split, or tear easily?                       | _____ |
| B. Are printed materials acceptable in terms of legibility and placement?                                 | _____ |
| C. Is the mounting device durable?  | _____ |
| D. Is the mounting device appropriate for the intended use?   | _____ |
| E. Is the surface washable?   | _____ |
| F. Is the surface as nonreflecting as possible?   | _____ |
| G. Can marking devices be used on the surface?  | _____ |

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## TAPE AND PHONOGRAPH RECORDS

Yes No NA

- |  |       |
|--|-------|
| I. Is the content of this material well organized and well balanced?                                       | _____ |
| A. Have the principles of learning been followed in developing the material, e.g., reinforcement—transfer? | _____ |
| B. Is the material presented logically and clearly?  | _____ |
| C. Does the material achieve its stated purpose?   | _____ |
| D. Is the content appropriate for presentation in recorded form?   | _____ |
| E. Does the material complement printed and visual teaching resources in the same subject area?            | _____ |
| F. Is the quality of the script or commentary satisfactory?  | _____ |
| <hr/>  |       |
| II. Is the technical quality of this material acceptable?  | _____ |
| A. Is the recording clearly labeled? (Title, number indicating playing sequence, and speed.)               | _____ |
| B. Is the type of material used for the record or tape durable?  | _____ |
| C. Is the quality of sound satisfactory?   | _____ |
| 1. Are the speakers' or actors' voices clear and understandable?   | _____ |
| 2. Is the music free from distortion?  | _____ |

© Educational Research Service, Inc., 1976, pp. 51-56. *Procedures for Textbook and Instructional Materials Selection* by Linda Kunder, based on materials originally provided by the Board of Education of Carroll County, Maryland.

Martin, B & Sargent, L (1980) The teacher's handbook on the school library media center Hamden, Connecticut: Shoe String Press pp 143-148

APPENDIX 5      EVALUATION FORM - FOR ASSESSMENT  
OF AUDIO-VISUAL RESOURCES

EVALUATION SHEET

NON-BOOK MATERIAL

Please tick  in relevant box where applicable.

Film  Tape/Slide Programme  Audio  Video Cassette

Title \_\_\_\_\_

Subject \_\_\_\_\_ English  Afrikaans

Where Acquired \_\_\_\_\_

Duration of Item mins  b/w  colour

School subject relevance \_\_\_\_\_ syllabus section \_\_\_\_\_ term covered \_\_\_\_\_

Summary \_\_\_\_\_

A. Accuracy of Presentation:

- 1. Details: Clear  Poor
- 2. Omissions: None  a Few  Large Number
- 3. Overall Impression: True  Distorted/Biased

B. Quality of Presentation:

- Picture: Poor  Good  Excellent
- Colour: Poor  Good  Excellent
- Sound: Poor  Good  Excellent
- Speech: Poor  Good

C. Dramatic Qualities: None  Overplayed  Convincing

Other Aspects \_\_\_\_\_

D. Contents: Poor  Good  Excellent

E. Pupil Response: Poor  Good  Excellent

F. Standard Suitability:

6	7	8	9	10

G. Related material, if known \_\_\_\_\_

INDEX NO.

DATE

TIME/MINS

CATALOGUE NO.

Useful content questions:

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

Work Sheet: If you produce a Work Sheet on the item please provide one for the Media Centre.

Evaluated by \_\_\_\_\_

Date: \_\_\_\_\_

RATING SCALE

Very Useful	
Useful	
Of No Use	

APPENDIX 6      EVALUATION CRITERIA - AUDIO, VISUAL  
AND AUDIO-VISUAL EQUIPMENT

**SPECIFIC CRITERIA FOR THE EVALUATION OF AUDIO,  
VISUAL AND AUDIO-VISUAL EQUIPMENT**

(Amplifier, Listening Station, Record Player, Tape Recorder, Camera, Microscopes,  
Projectors, Televisions, and Office Practice Machines)

- I. Is the equipment portable?
  - A. Is it reasonably light in weight in comparison with others?
  - B. Is it compact?
- II. Is the equipment sturdy and attractive?
  - A. Does the material of which the equipment is constructed appear durable?
    1. Is the equipment well constructed?
    2. Is the material of which the equipment is constructed easily damaged or broken?
  - B. Are the control features durable and reliable?
- III. Is the equipment easy to operate?
  - A. Are the controls accessible and plainly marked?
  - B. Is there a minimum number of operating controls?
- IV. Does this equipment consistently meet desirable performance standards in terms of its specific function?
  - A. Is tonal quality true?
  - B. Is volume range adequate and well defined?
  - C. Is image sharply defined?
  - D. Is light supply adequate?
  - E. Is magnification of projection adequate?
  - F. Are sound and visual image synchronized?
- V. Are adaptations easy to perform?
  - A. Are adaptors included within the equipment or its container?
  - B. Is the equipment compatible for use with other types of equipment?
- VI. Is the equipment easy to maintain and repair?
  - A. Can minor adjustments be made simply and quickly when needed?
  - B. Is it easy to remove parts likely to need repairs?
  - C. Are the parts standard and easily available for replacement?
- VII. Is the distributor dependable? (Evaluator omit this section.)
  - A. Does the distributor have a proper credit rating?
  - B. Are the distributor and manufacturer faithful to their agreements?
  - C. Are repair and emergency service facilities readily available?
  - D. Are adequate stocks of spare parts maintained locally?
- VIII. In comparison with the cost of similar equipment, is the price reasonable?

More specific criteria have been drawn up for some other forms of equipment commonly used in the schools. There are, for example, separate checklists in the *Handbook* for power tools, flannel boards, screens, and teaching machines.

APPENDIX 7 DEWEY DECIMAL CLASSIFICATION -  
ABRIDGED FOR SCHOOLS

## *Second Summary: Divisions*

000	<b>General works</b>	500	<b>Pure science</b>
010	Bibliography	510	Mathematics
020	Library science	520	Astronomy
030	General encyclopedias	530	Physics
040	General collected essays	540	Chemistry & allied sciences
050	General periodicals	550	Earth sciences
060	General societies	560	Paleontology
070	Newspaper journalism	570	Anthropology & biology
080	Collected works	580	Botanical sciences
090	Manuscripts & rare books	590	Zoological sciences
100	<b>Philosophy</b>	600	<b>Technology</b>
110	Metaphysics	610	Medical sciences
120	Metaphysical theories	620	Engineering
130	Branches of psychology	630	Agriculture
140	Philosophical topics	640	Home economics
150	General psychology	650	Business
160	Logic	660	Chemical technology
170	Ethics	670	Manufactures
180	Ancient & medieval	680	Other manufactures
190	Modern philosophy	690	Building construction
200	<b>Religion</b>	700	<b>The arts</b>
210	Natural theology	710	Landscape & civic art
220	Bible	720	Architecture
230	Doctrinal theology	730	Sculpture
240	Devotional & practical	740	Drawing & decorative arts
250	Pastoral theology	750	Painting
260	Christian church	760	Prints & print making
270	Christian church history	770	Photography
280	Christian churches & sects	780	Music
290	Other religions	790	Recreation
300	<b>Social sciences</b>	800	<b>Literature</b>
310	Statistics	810	American literature in English
320	Political science	820	English and Old English
330	Economics	830	Germanic literatures
340	Law	840	French, Provençal, Catalan
350	Public administration	850	Italian, Rumanian
360	Social welfare	860	Spanish, Portuguese
370	Education	870	Latin & other Italic literatures
380	Public services & utilities	880	Classical & modern Greek
390	Customs & folklore	890	Other literatures
400	<b>Language</b>	900	<b>History</b>
410	Comparative linguistics	910	Geography, travels, description
420	English & Anglo-Saxon	920	Biography
430	Germanic languages	930	Ancient history
440	French, Provençal, Catalan	940	Europe
450	Italian, Rumanian	950	Asia
460	Spanish, Portuguese	960	Africa
470	Latin & other Italic	970	North America
480	Classical & modern Greek	980	South America
490	Other languages	990	Other parts of world

Dewey, Melvil (1960) Dewey decimal classification and relative index 8th Abridged edition, New York: Forest Press p 25

APPENDIX 8

JOB DESCRIPTIONS OF RESOURCE

CENTRE PERSONNEL

## JOB DESCRIPTIONS

The sample job descriptions that follow are for positions that most often exist in the school library media center in an individual building. They agree with the tasks that have been described earlier. They also identify some of the major specific duties that are generally universal. The use of job descriptions is recommended both for the applicant or employee and the supervisor. Each job description can be designed specifically for a particular position by using these samples as guidelines. Of necessity, the job description that evolves will contain the tasks specific to the position.

*Position:* School Library Media Head  
*Supervisor:* District school library media director  
Administrative head of school (principal)  
*Supervises:* School library media center staff (other specialists, technicians, clerks, etc.)  
*Education:* Additional competencies beyond those expected of a school library media specialist, e.g., administration, information science  
*Nature:* Responsibility to administer the school library media center to help accomplish the educational goals of the school district (if there is no district director, also to plan and develop cooperatively the school library media center policy)  
*Responsibilities:* Assume the duties, as able, of the district school library media director when there is none.  
Serve as liaison with principal and school library media district director.  
Implement center policies.  
Submit reports to district director and principal.  
Help to recruit and select staff.  
Participate in preparing job descriptions.  
Supervise staff; develop evaluation forms.

Plan systems for maintenance, scheduling, and delivery of materials and equipment.

Enlist faculty participation in evaluating and selecting. Serve as curriculum consultant and also review curriculum.

Observe classroom work to coordinate school library media center programs.

Prepare instructional programs cooperatively and conduct in-service courses.

Plan orientation programs for students, faculty, administrators, and the community.

Develop and implement plans for reorganizations and relocations.

Initiate promotional work related to media, such as publications.

Promote use of professional collections.

Investigate resource sharing.

Explore current developments in the field.

**Position:** School Library Media Specialist  
**Supervisor:** School library media head  
**Supervises:** Technicians (paraprofessionals)  
Clerks (nonprofessionals)  
Student assistants  
Volunteers  
**Education:** Professional degree; the first level of professional responsibility as a fully prepared specialist  
**Nature:** Knowledge and ability in media and related equipment; participation as a specialist in their effective use in all categories of the curriculum  
**Responsibilities:** Help to plan scheduling and delivery systems.  
Schedule use of facilities.  
Participate in curriculum development committees.  
Help to coordinate classroom work with school library media programs.  
Introduce teachers to media aids in their subjects or grade levels.  
Work with students and teachers in reading, viewing, and listening.  
Inform teachers of new services.  
Compile media lists.  
Read widely for information on selecting materials and equipment.  
Help to evaluate and select media.

---

Organize and reserve special collections.  
Perform general reference services.  
Administer interlibrary loan and resource sharing.  
Plan and conduct programs of instruction in research techniques.  
Conduct in-service courses.  
Orient students to school library media center(s).  
Train student assistants and volunteers.  
Initiate projects and activities relating to media resources.  
Originate and conduct programs for special-interest groups.  
Outline and conduct public relations, e.g., write articles, maintain schedules of class activities.

**Position:** School Library Media Technician  
**Supervisor:** School library media head  
School library media specialist  
**Education:** Generally two years of higher education, including specialized training and/or experience  
**Nature:** Competency as a team member of the staff to provide technical services and specialized operations for school library media centers  
**Responsibilities:** Help to schedule use and delivery of media.  
Produce specialized materials for school needs, e.g., tapes.  
Provide for preparation of materials, e.g., transparencies.  
Make simple display devices for instruction.  
Operate lettering and drawing devices, microfilm, etc.  
Handle photography and film courses for recreational related work.  
Maintain computer equipment and help with programs.  
Adapt commercial materials and equipment to meet special needs.  
Evaluate student's special school library media center projects.  
Assist with independent study.  
Help students and teachers using equipment and materials.  
Assist teachers and students in locating and selecting media.  
Involve and help students and teachers with production techniques.

---

Work with teachers to design innovations in instruction.  
Develop new uses for materials and equipment.  
Help to develop evaluation forms for equipment.  
Maintain cumulative records of repair and condition of equipment.  
Make repairs on equipment and investigate contract method for major repairs.  
Plan and prepare displays for public relations, e.g., school library media center fair.  
Perform routine and simple print shop activities.

**Position:** School Library Media Secretary (aide, etc.)  
**Supervisor:** School library media head, specialist, technician, or other specified head.  
**Supervises:** Student assistants/volunteers  
**Education:** Secretarial training/experience, including typing ability  
**Nature:** Fulfill the routine operations of a school library media center, under direction of a professional  
**Responsibilities:** Transact clerical business operations.  
Handle secretarial work of correspondence, etc.  
Control ordering, inventory, and maintenance of supplies.  
Check shelf list and other aids for ordering and duplicating.  
Prepare and file catalog cards for media, e.g., microforms.  
Help to adapt commercial catalog cards, if used, for local use.  
Maintain selection aids for finding new materials.  
Compile and revise media catalogs, whether book, computerized, etc.  
Maintain review files for media.  
Type notices, requisitions, bulletins, mediagraphies, etc.  
Post receipt of periodicals, newspapers, etc.  
Place subject headings on vertical file folders.  
Process records for media withdrawn from the collection.  
Maintain media inventory records.  
Assist in the inventory.

**Position:** Student Assistant/Volunteer  
**Supervisor:** School library media head or school library media specialist, technician, media aide or secretary, or other specified authority  
**Education:** Training on the job, generally  
**Nature:** Assistance to the staff  
**Responsibilities:** Assist at the circulation desk.  
Unpack and check new materials and equipment and verify invoices.  
Place ownership and identification mark on each item.  
Ready items received for use.  
Sort and place items in proper locations, maintaining proper order.  
Perform messenger service.  
Set up and operate equipment for teachers and students.  
Assist in public relations work, e.g., bulletin boards.

APPENDIX 9 PUPILS' QUESTIONNAIRE [1]

**RESEARCH PROJECT**

---

**RESOURCE CENTRES**

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**AUGUST 1984**

**A STEVENSON  
FISH HOEK HIGH SCHOOL  
CAPE**

R E S O U R C E      C E N T R E S

---

PUPILS' QUESTIONNAIRE 1 :

This questionnaire is attempting to collect information about the Resource Centre at your school and what you feel about it.

It is important to know what the Resource Centre can do for you and what additional services it may be able to provide, so please be frank with your comments.

The questionnaire is answered in 4 simple ways, to enable the information to be analysed by computer. Let us work through the examples, bearing in mind that the number "1" = Yes and "0" = No.

Examples :-

- A. Do you watch television?  
If No, go to question C.  
If Yes, answer the next question.

When giving a response to a multiple choice question, indicate this with the number of your answer.

- B. When do you watch television?
1. Every night
  2. Only at weekends
  3. Only during school holidays
  4. Not at all
  5. Other (Please specify) \_\_\_\_\_
- 

You may choose more than one response if you wish, but indicate each one with its relevant number.

- C. When do you visit video shops?
1. After school
  2. In the evening
  3. At weekends
  4. Only during school holidays
  5. Not at all
  6. Other (Please specify) \_\_\_\_\_
- 

- D. How many videos do you watch per month?

The questionnaire is strictly confidential and no personal or school details will be revealed. In places there are open-ended questions where you may express your opinion in more detail.

RESOURCE CENTRES

1	2	3

Pupils' Questionnaire 1 :

Date: \_\_\_\_\_  4

Personal Details :

School : \_\_\_\_\_

Standard : \_\_\_\_\_ Age: \_\_\_\_\_ Years \_\_\_\_\_ Mths.

---

A. Reading

1. Do you enjoy reading?  6
  
2. Do you take books out from the Resource Centre for leisure reading?  7
  
3. If No, go to the next question.  
If Yes, how many books do you take out and read, per month?  8

B. Learning

4. Do you learn best by working :-
  1. In small groups?
  2. On your own?
  3. With a friend?  10
  4. In the classroom situation?
  5. By other means (Please specify)

\_\_\_\_\_

\_\_\_\_\_

C. Resource Centre Use and Procedures

5. How often do you visit the Resource Centre in your own free time?  12
  1. Every day
  2. Once a week
  3. Three times a week
  4. Once every two weeks
  5. Not at all
  6. Other (Please specify) \_\_\_\_\_

\_\_\_\_\_

If your answer to question 5 was "not at all", then you have completed the Questionnaire. Thank you.

6. When do you visit the Resource Centre?

1. Before school
  2. During school periods
  3. During breaks
  4. During library periods
  5. After school
  6. In the evening
  7. Other (Please specify) \_\_\_\_\_
- 


19

7. What do you usually do in the Resource Centre at any time you go there?

1. Take out a book
  2. Read magazines
  3. Work on projects or assignments
  4. Use the reference books
  5. Do private study
  6. Seek advice from the librarians
  7. Use the "software"
  8. Do homework
  9. Other (Please specify) \_\_\_\_\_
- 


28

8. Does the Resource Centre provide a pleasant atmosphere in which to read and work?

--

29

9. Is there a set class period each week during which you visit the Resource Centre?

--

30

10. Are you aware of a "Guide" or "Guides" to the Resource Centre to assist you in finding material?

--

31

11. If No, go to the next question.  
If Yes, indicate if it is one or more of the following :-

1. Chart
  2. Booklet
  3. Tape / slide programme
  4. Other (Please specify) \_\_\_\_\_
- 


35

12. Do you use the card catalogue to find books on the shelves?

--

36

13. If you know the "title" of a book, how would you find out the author's name?

1. Look in the card catalogue under "subject"
2. Look through the "author" cards
3. Look through the "title" cards
4. Look for the book on the shelves
5. Other (Please specify) \_\_\_\_\_


41

D. Projects and Assignments

14. How many projects or assignments do you have to complete each term?  43

15. Do the teachers who set these projects or assignments usually encourage you to use the Resource Centre?  44

16. Do the teachers who set these projects or assignments usually take you to the Resource Centre when one is set?  45

17. Do the teachers who set these projects or assignments usually assist you in finding relevant material?  46

18. What other assistance is given you, if any? Please specify.

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19. Have you ever been encouraged to produce a project or assignment using "software" such as tapes, slides or transparencies?  47

20. If No, go to question 23.  
If Yes, have you ever handed in a project or assignment using "software"?  48



Official Use Only (Card 2)

1	2	3
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4
<input type="checkbox"/>

24. From the following list of "software" items indicate those that you may have made this year for a class oral or project,

1. Audio-cassette
2. Video-cassette
3. Computer programme
4. Film
5. Slides
6. Tape / slide programme
7. Transparencies
8. Photographs
9. Model
10. Map
11. Chart
12. Other (Please specify) \_\_\_\_\_

<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

16

25. From the following list of "hardware" items indicate those that you may have used this year, either in the classroom or in the Resource Centre.

1. Tape recorder (reel-to-reel)
2. Cassette recorder
3. Video recorder
4. Record player
5. Slide viewer (hand-held)
6. Slide projector
7. Tape / slide projector
8. Film projector
9. Filmstrip projector
10. Film loop projector
11. Overhead projector
12. Other (Please specify) \_\_\_\_\_

<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

28

26. Are you able to borrow "hardware" after school hours?

<input type="checkbox"/>
--------------------------

29

27. If No, go to question 29  
If Yes, have you borrowed such equipment?  30

28. If you have borrowed equipment after school hours, please specify:-

---

---

---

29. If the school has a photographic club, do you use the "dark room" facilities, either as a member or non-member?  31

30. If No, go to next question.  
If Yes, how often do you use the "dark room" facilities?

1. Never
  2. Occasionally
  3. Regularly
  4. Other (Please specify) \_\_\_\_\_
- 
- 32

31. How would you rate the "facilities" provided by the Resource Centre?

On a scale of 1 to 5,  
Poor = 1 : Excellent = 5  33

F. Service

32. How valuable has the Resource Centre been to you?

1. Of considerable value
  2. Of some value
  3. Of no value
- 
- 35

33. How do you find the Resource Centre staff?

1. Very helpful
  2. Moderately helpful
  3. Not helpful
- 
- 36

34. How would you rate the "service" provided by the Resource Centre?  
On a scale of 1 to 5,  
Poor = 1 : Excellent = 5  37

35. From the list identify the five most important functions of the Resource Centre. Number these 1, 2, 3, 4, 5 in order of importance, leaving the other numbers blank.

- a. To provide books for leisure reading
- b. To produce "software" for teachers and pupils
- c. To store all "hardware" and "software"
- d. To offer a quiet place for studying
- e. To give reading guidance to pupils
- f. To issue all "hardware" and "software"
- g. To provide formal "book education" lessons
- h. To provide resources of all kinds for teachers and pupils
- i. To classify and catalogue all material
- j. To provide guidance in using the Resource Centre


36. What suggestions do you have for improving the Resource Centre at your school, so that it can provide you with a better service or better facilities.

---

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Thank you for your co-operation in answering this questionnaire to the best of your ability and I wish you luck in your examinations.

APPENDIX 10      TEACHERS' QUESTIONNAIRE [2]

R E S O U R C E      C E N T R E S

TEACHING STAFF QUESTIONNAIRE 2 :

This Questionnaire is part of the work for an M.Ed. (Librarianship) at the University of Cape Town. The intention is to assess teacher and pupil attitudes to the Resource Centre and its frequency of use. Answer the questions by means of a tick in the relevant box or boxes, and one digit per box where a number is required. Answers provided must refer only to 1984 unless otherwise indicated.

The Questionnaire is strictly confidential and no personal or school details will be revealed. In places there are open-ended questions where you may express your opinions in more detail.

Please note that one or more answers may apply to certain questions. Where this occurs, please tick all those that refer to you. For example, Question 8.

A Stevenson  
Fish Hoek High School  
Cape  
1984

RESOURCE CENTRE

Teaching Staff

Date : \_\_\_\_\_

Administration

School : \_\_\_\_\_

A. Personal

1. Position held : \_\_\_\_\_

2. Qualifications :

2.1 Academic \_\_\_\_\_

2.2 Professional \_\_\_\_\_

3. Subject/s taught \_\_\_\_\_

3.1 To Std. 7 \_\_\_\_\_

3.2 To Std. 9 \_\_\_\_\_

4. How long have you been in your present position?

Yrs      Mths

--	--	--	--

5. How long have you been at your present school?

--	--	--	--

6. How long have you been in secondary education?

--	--	--	--

B. Resource Centre Use and Procedures

7. How often do you visit the Resource Centre?

- 7.1 Every day
  - 7.2 Once a week
  - 7.3 Three times a week
  - 7.4 Once every two weeks
  - 7.5 Other (Please specify)
- 


8. When do you visit the Resource Centre?

- 8.1 Before school
  - 8.2 During free periods
  - 8.3 During break
  - 8.4 When setting projects
  - 8.5 After school
  - 8.6 In the evening
  - 8.7 Other (Please specify)
- 


9. Do you set projects or assignments in your subject?

Yes No

--	--

10. If No, go to questions 11 and 12, then go to question 18.  
If Yes, how many per class, per term, on average?

--	--

11. Do you feel that it is important to check what material is available before a project or assignment is set?

Yes No

--	--

12. Do you feel that it is important to consult the Teacher / Librarian before a project or assignment is set?

Yes No

--	--

13. Do you take your class to the Resource Centre when you have set a project or assignment?

Yes No

--	--

14. If No, go to next question.  
If Yes, do you assist them in finding relevant material?

Yes No

--	--

15. Do you encourage your pupils to use Audio-visual material in their projects or assignments? Yes No

--	--

16. If No, go to next question.  
If Yes, what "software" do you encourage them to use?

- 16.1 Tape / slide format
  - 16.2 Slides
  - 16.3 Cassette/s
  - 16.4 Transparencies
  - 16.5 Other (Please specify)
- 


17. What Audio-visual projects or assignments have been submitted to you?

- 17.1 Tape / slide programme
  - 17.2 Slides
  - 17.3 Cassette/s
  - 17.4 Transparencies
  - 17.5 Other (Please specify)
- 


18. Please indicate if you have attended any "workshops" conducted by the Resource Centre staff, on the following:

- 18.1 Overhead projector
  - 18.2 Film projector
  - 18.3 Slide projector
  - 18.4 Cassette recorder
  - 18.5 Tape recorder (reel-to-reel)
  - 18.6 Computer
  - 18.7 Camera
  - 18.8 Other (Please specify)
- 


C. Use of Material and Equipment

19. As a subject teacher, have you produced any "software" programmes for your own teaching? Yes No

--	--

20. If No, go to question 22.  
 If Yes, have you, yourself, made any  
 of the following this year?

- 20.1 Tape / slide programmes
- 20.2 Slide series
- 20.3 Audio-cassettes
- 20.4 Video-cassettes
- 20.5 Films
- 20.6 Transparencies
- 20.7 Models
- 20.8 Computer programmes
- 20.9 Other (Please specify)


21. Having made programmes do you lend  
 these to, or exchange these with,  
 other staff members?

- 21.1 Lend
- 21.2 Exchange

Yes	No

22. If the school has a photographic club,  
 how often do you use the "dark room"  
 facilities? If it has none, go to  
 the next question.

- 22.1 Never
- 22.2 Occasionally
- 22.3 Regularly
- 22.4 Other (Please specify)


23. From the following, tick those that you may  
 have used this year either in classroom  
 or the Resource Centre.

- 23.1 Audio-cassette
- 23.2 Video-cassette
- 23.3 Computer cassette/disk
- 23.4 Films
- 23.5 Filmstrips
- 23.6 Slides
- 23.7 Transparencies
- 23.8 Cuttings
- 23.9 Pamphlets / booklets
- 23.10 Pictures
- 23.11 Photographs
- 23.12 Microforms
- 23.13 Projects (pupils)
- 23.14 Models
- 23.15 Globes
- 23.16 Maps
- 23.17 Charts
- 23.18 Games
- 23.19 Multi-media kits
- 23.20 Records
- 23.21 Photocopies
- 23.22 Other (Please specify)

1	
2	
3	
4	
5	
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7	
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20	
21	

24. From the following list of "hardware" items, tick those that you may have used this year either in the classroom or the Resource Centre.

24.1	Tape recorder (reel-to-reel)	1	<input type="checkbox"/>
24.2	Cassette recorder	2	<input type="checkbox"/>
24.3	Video recorder	3	<input type="checkbox"/>
24.4	Portable radio	4	<input type="checkbox"/>
24.5	Music centre	5	<input type="checkbox"/>
24.6	Record player	6	<input type="checkbox"/>
24.7	Computer	7	<input type="checkbox"/>
24.8	Micro-computer	8	<input type="checkbox"/>
24.9	Slide viewer (hand-held)	9	<input type="checkbox"/>
24.10	Slide projector	10	<input type="checkbox"/>
24.11	Tape / slide projector	11	<input type="checkbox"/>
24.12	Film projector	12	<input type="checkbox"/>
24.13	Filmstrip projector	13	<input type="checkbox"/>
24.14	Film loop projector	14	<input type="checkbox"/>
24.15	Overhead projector	15	<input type="checkbox"/>
24.16	Camera	16	<input type="checkbox"/>
24.17	Microfilm reader	17	<input type="checkbox"/>
24.18	Cassette duplicator	18	<input type="checkbox"/>
24.19	Light table	19	<input type="checkbox"/>
24.20	Flip chart (on tripod stand)	20	<input type="checkbox"/>
24.21	Transparency maker	21	<input type="checkbox"/>
24.22	Computer printer	22	<input type="checkbox"/>
24.23	Other (Please specify)		<input type="checkbox"/>

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D. Attitudes

25. Do you find the Resource Centre staff?

25.1	Very helpful	<input type="checkbox"/>
25.2	Moderately helpful	<input type="checkbox"/>
25.3	Not helpful	<input type="checkbox"/>

26. How valuable has the Resource Centre been to you?

26.1	Of considerable value	<input type="checkbox"/>
26.2	Of some value	<input type="checkbox"/>
26.3	Of no value	<input type="checkbox"/>

27. From the given list, identify the five most important functions of the Resource Centre. Rate these 1 - 5 in order of importance.

- 27.1 To provide books for leisure reading.
- 27.2 To produce "software" for teachers and pupils.
- 27.3 To store all "hardware" and "software".
- 27.4 To offer a quiet place for studying.
- 27.5 To give reading guidance to pupils.
- 27.6 To issue all "hardware" and "software".
- 27.7 To provide formal "book education lessons.
- 27.8 To provide resources of all kinds for teachers and pupils
- 27.9 To classify and catalogue all material.
- 27.10 To provide guidance in using the Resource Centre.


28. How do you rate the service provided by the Resource Centre.

On a scale of 1 to 5, Poor = 1: Excellent = 5

1	2	3	4	5

29. How do you rate the facilities provided by the Resource Centre?

On a scale of 1 to 5, Poor = 1: Excellent = 5

1	2	3	4	5

30. I would be grateful for any additional comments you would like to make on the Resource Centre and the services it provides:

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31. What suggestions do you have for improving the Resource Centre so that it can provide you with a better service or better facilities.

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Thank you for your co-operation in completing this questionnaire and giving of your valuable time to do so.

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APPENDIX 11      TEACHER-LIBRARIANS' QUESTIONNAIRE [3]

R E S O U R C E      C E N T R E

PERSONNEL QUESTIONNAIRE 3 :

This Questionnaire is part of the work for an M.Ed (Librarianship) at the University of Cape Town. The intention is to assess teachers' and pupils' attitudes to the Resource Centre and its frequency of use. Answer the questions by means of a tick in the relevant box or boxes, and one digit per box where a number is required. Answers provided must refer only to 1984 unless otherwise indicated.

The Questionnaire is strictly confidential and no personal or school details will be revealed. In places there are open-ended questions where you may express your opinions in more detail. Please note that one or more answers may apply to certain questions. Where this occurs please tick all those that are relevant.

If there are two staff members involved in the Resource Centre, would each please complete a Questionnaire, answering those questions which are relevant to his / her area of responsibility.

Your assistance in completing this Questionnaire with regard to statistics and the facilities offered will be greatly appreciated.

Thank you.

A Stevenson  
Fish Hoek High School  
Cape  
1984

RESOURCE CENTRE

Personnel

Date: \_\_\_\_\_

School : \_\_\_\_\_

No. of Pupils: \_\_\_\_\_ No. of Staff : \_\_\_\_\_

A. Personal

1. Title of position: \_\_\_\_\_

2. Duties : \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. Qualifications :

3.1 Academic: \_\_\_\_\_

3.2 Professional: \_\_\_\_\_

4. How long have you been in your present position?

Yrs		Mths	

5. How long have you been at your present school?

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6. How long have you been in secondary education?

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B. Resource Centre Personnel

7. Please indicate if any of the following categories of personnel assist in your Resource Centre by filling in the number of hours of assistance given per week.

		Hours	
7.1	Resource Officer		
7.2	Teacher / Librarian		
7.3	Clerical Assistant		
7.4	Pupil Librarians (How many? _____)		
7.5	Technician		
7.6	Graphics Artist		
7.7	Parents (How many? _____)		
7.8	Other (Please specify _____)		

C. Facilities

8. Are the resources :-

8.1	Centralised?	
8.2	Decentralised (Dept. based)?	
8.3	Decentralised (duplicated material in Resource Centre)?	
8.4	Classroom based?	
8.5	Classroom based (duplicated material in Resource Centre)?	
8.6	Other (Please specify _____)	

9. What is the seating capacity of the Resource Centre? 

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10. Please indicate if any of the following facilities are available :-

10.1	Reprographic area	1	
10.2	Audio-visual production room	2	
10.3	Audio-visual storage room	3	
10.4	Audio-visual room (class viewing)	4	
10.5	Lecture room / hall (seating capacity approx. 60)	5	
10.6	Seminar rooms (seating capacity 20)	6	
10.7	Study carrels	7	
10.8	Soundproofed recording area	8	
10.9	Photographic dark room	9	
10.10	Language laboratory	10	
10.11	Computer room	11	
10.12	Library office	12	
10.13	Other (Please specify _____)		

11. How many individual study carrels are there in the Resource Centre? 

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12. If available, how many of these are "wet" (power) and how many are "dry" (no power)?

12.1 Wet 

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12.2 Dry 

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13. Do you have slide duplicating facilities in the Resource Centre? 

Yes	No

14. If No, go to next question  
If Yes, do teachers and pupils themselves duplicate slides? 

Yes	No
T	
P	

15. Do you have black and white film developing facilities in the school? 

Yes	No

16. If No, go to question 21.  
If Yes, do teachers and pupils themselves develop film? 

Yes	No
T	
P	

17. Do you have colour film developing facilities? 

Yes	No

18. If No, go to question 16.  
If Yes, do teachers and pupils themselves develop film? 

Yes	No
T	
P	

19. Is there a transparency maker or photocopier available in the school?

19.1 Transparency Maker 

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19.2 Photocopier 

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20. If No, go to next question.  
If Yes, do teachers and pupils themselves make transparencies? 

Yes	No
T	
P	

21. If a photocopier is available do teachers and pupils themselves use it? 

Yes	No
T	
P	



30. If not provided by you, do other Resource Centre personnel present "workshops"? Yes No  

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31. Do any members of staff present "workshops"? Yes No  

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32. If Yes, to either Question 30 or 31, please specify.

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33. Is computer science an external examination subject? Yes No  

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34. If No, go to next question.  
 If Yes, is it taught to Stds.7 & 9? 7 9 Yes No  


35. Is "book education" a school subject? Yes No  

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36. If No, go to next question.  
 If Yes, is it taught to Stds.7 & 9? 7 9 Yes No  


E. Resource Centre Access

37. Accessibility is usually restricted to a greater or lesser degree. What is the situation in your Resource Centre with regard to "software" and "hardware" and its availability both to teachers and pupils?  
Please explain in some detail.

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38. How many hours per week is the Resource Centre open for pupils to use before, during, and after school?

38.1 Before  
38.2 During  
38.3 After

Hours


39. Is the Resource Centre open at any time during the school holidays?

Yes No

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40. If Yes, go to question 43.

41. If No, is provision made for pupils to take out "software" items during the school holidays?

Yes No

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42. If No, go to next question.  
If Yes, are pupils permitted to take out "hardware" during the holidays?

Yes No

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43. Are parents allowed to use the facilities of the Resource Centre?

Yes No

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44. If No, go to next question.  
If Yes, how often do they do so?

- 44.1 Very often
- 44.2 Quite often
- 44.3 Not very often
- 44.4 Not at all


45. As Resources Officer or Teacher / Librarian, how many hours per week do you spend :-

- 45.1 In formal teaching?
- 45.2 Working in the Resource Centre?
- 45.3 In "book education" classes?

Hours	

F. Communication

46. As Resources Officer or Teacher / Librarian, what means do you employ to communicate with the teaching staff?

- 46.1 Talk to them at subject meetings
- 46.2 Consult them in the staff room
- 46.3 Utilise the meetings timetabled for this purpose
- 46.4 Produce a news sheet
- 46.5 Provide them with catalogues
- 46.6 Invite staff to tea in the Resource Centre
- 46.7 Invite staff to displays of new material
- 46.8 Make regular comments during staff meetings
- 46.9 Other (Please specify)


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47. As Resources Officer or Teacher / Librarian, what means do you employ to communicate with pupils?

- 47.1 Talk to them during "book education" classes
- 47.2 Put up charts and posters outlining facilities and services
- 47.3 Talk to classes when projects or assignments are set
- 47.4 Distribute a news sheet
- 47.5 Provide a printed "guide" to the Resource Centre
- 47.6 Other (Please specify)


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48. How do you rate the services provided by the Resource Centre?  
On a scale of 1 to 5, Poor =1 : Excellent =5

1	2	3	4	5

G Problems and Solutions

49. What aspects of your work in the Resource Centre take up most of your time?  
Please specify :-

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50. What are the major problems militating against the effective use of the Resource Centre?

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Resource Centre Statistics

This statistical return is a very important part of the survey as it will form the basis for the conclusions to be drawn from the questionnaires answered by staff and pupils.

Please complete in as much detail as possible.

1. Please provide the approximate number of each of the following "software" items which you have accessioned into the Resource Centre. At the same time, would you enter the relevant issue statistics for the second term

		Number	Issues
1.1	Audio-cassettes	1	
1.2	Video-cassettes		
1.3	Computer disks/cassettes		
1.4	Films		
1.5	Filmstrips	5	
1.6	Slides		
1.7	Slide sets		
1.8	Transparencies		
1.9	Transparency sets		
1.10	Cuttings	10	
1.11	Pamphlets / booklets		
1.12	Pictures		
1.13	Photographs		
1.14	Photocopies		
1.15	Microforms	15	
1.16	Projects (pupils)		
1.17	Models		
1.18	Globes		
1.19	Maps		
1.20	Charts	20	
1.21	Chart sets		
1.22	Games		
1.23	Multi-media kits		
1.24	Records		
1.25	Books	25	
1.26	Other (Please specify)		

2. Please indicate how many of the following "hardware" items you have in your Resource Centre and the relevant issue statistics for those items which may be borrowed, covering the second term

		Number	Issues			
2.1	Tape recorders (reel-to-reel)	1				
2.2	Audio-cassette recorders					
2.3	Video-cassette recorders					
2.4	Portable radios					
2.5	Music centres	5				
2.6	Record players					
2.7	Headphones					
2.8	Television receivers					
2.9	Computers					
2.10	Micro-computers	10				
2.11	Computer printers					
2.12	Slide viewers (hand-held)					
2.13	Slide projectors					
2.14	Tape / slide projectors					
2.15	Film projectors	15				
2.16	Filmstrip projectors					
2.17	Film loop projectors					
2.18	Overhead projectors					
2.19	Cameras - Super '8'	19				
	- 35 mm					
	- Kodak ektagraphic					
	- Video					
	- Other (Please specify)					
2.20	Screens					
	- Portable					
	- Fixed					
	- Daylight					
	- Other (Please specify)					
2.21	Microfilm readers					
2.22	Cassette duplicators (multiple copies)					
2.23	Light tables					
2.24	Transparency makers					
2.25	Spirit duplicators	25				
2.26	Gestetners					
2.27	Photocopiers					
2.28	Flip charts (on tripod stand)					
2.29	Other (Please specify)					

3. If possible give a percentage figure of pupils making use of the Resource Centre.  %

4. If possible give a percentage figure of staff making use of the Resource Centre.  %



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