Prof. J.P. de Lange
Chairman of the Main Committee
HSRC Investigation into Education

REPORT OF THE WORK COMMITTEE: CURRICULUM DEVELOPMENT

As Chairman I take pleasure in submitting the report of the Work Committee: Curriculum development to the Main Committee for consideration. The final chapter contains a summary of the report.

F van der Stoep.

PROF. F. VAN DER STOEP
CHAIRMAN

STATEMENT

This report has been prepared by the Work Committee: Curriculum development instituted by the HSRC Main Committee for the Investigation into Education.

This report reflects the findings, opinions and recommendations of the Work Committee: Curriculum development and, where applicable, those of groups or individuals in the work committee with regard to matters about which there are differences of opinion. The findings, opinions and recommendations contained in this report do not necessarily reflect the point of view of either the HSRC or the HSRC Main Committee for the Investigation into Education.

This report is regarded by the HSRC Main Committee for the Investigation into Education as a submission of the Work Committee: Curriculum development to the Main Committee. The point of view and recommendations of the HSRC Main Committee will be contained in its final report that will be submitted to the Cabinet.

Human Sciences Research Council

Investigation into Education

Report of the Work Committee:

Curriculum development

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ORIENTATION

THE REQUEST

In June 1980 the Cabinet requested the Human Sciences Research Council to conduct an in-depth investigation into all facets of education in the RSA. The request to the HSRC read as follows:

"Your Council, in co-operation with all interested parties, must conduct a scientific and co-ordinated investigation and within 12 months make recommendations to the Cabinet on:

(a) guiding principles for a feasible education policy in the RSA in order to

(i) allow for the realization of the inhabitants' potential,

(ii) promote economic growth in the RSA, and

(iii) improve the quality of life of all the inhabitants in the country,

(b) the organization and control structure and financing of education

(c) machinery for consultation and decision-making in education

(d) an education infrastructure to provide for the manpower requirements of the RSA and the self-realization of its inhabitants, and

(e) a programme for making available education of the same quality for all population groups.

The investigation must be conducted in the light of, among other things, the present educational situation, the population composition in South African Society and the means that can be made available for education in the national economy. The investigation must cover all levels of education

i.e. pre-primary, primary, secondary and tertiary."

In accordance with the South African Plan for Research into the Human Sciences, the following plan of action was decided on.

(a) Prof. J.P. de Lange, Rector of the Rand Afrikaans University would be appointed as research leader.

(b) After the necessary consultation a high-level co-ordinating committee would be appointed to guide and co-ordinate the investigation and guarantee its scientific character. Members of the committee would include representatives of interested government departments, the private sector as well as eminent scientists from all the disciplines able to make a contribution to the development of education.

(c) Representatives of education institutions would be invited to serve on the subcommittees and work groups of the investigation.

(d) All population groups would be involved in the co-ordinated conduct of the investigation

(e) The investigation would be conducted in a spirit of positive co-ordination, i.e. the available research manpower both within and outside the HSRC and all research activities which had either already been concluded or were still going on, would be included in the investigation on a basis of voluntary co-operation.

(f) The HSRC would undertake parts of the investigation itself, but would for the greatest part make its research structure availalbe to contract researches for the investigation.

(g) Priority would be given to the most pressing problem areas so that the investigation could be expedited and interim reports submitted to the Cabinet in good time.

(h) Where applicable, alternative solutions for problems in education would be submitted.

THE MAIN COMMITTEE

The Main Committee of the Investigation into Education, whose members were appointed by the Council of the HSRC in their personal capacities, was as follows:

Prof. J.P. de Lange (Chairman)	Rector, Rand Afrikaans University
Dr S.S. Brand	Head, Financial Policy, Dept of Finance
Dr R.R.M. Cingo	Inspector of Schools, Kroonstad East Circuit, Dept of Education and Training
Dr J.G. Garbers	President, Human Sciences Research Council
Mr J.B. Haasbroek	Director, SA Institute for Educational Research, HSRC
Dr K.B. Hartshorne	Centre of Continuing Education, University of the Witwatersrand
Prof. J.H. Jooste	Director, Transvaal Education Department
Prof. S.R. Maharaj	Dean, Faculty of Education, University of Durban-Westville
Dr P.R.T. Nel	Former Director, Natal Dept of Education; Dept of Indian Education
Prof. A.C. Nkabinde	Principal, University of Zululand
Mr R.D. Nobin	Inspector of Education, Dept of Internal Affairs (Indian Affairs)
Mr M.C. O'Dowd	Anglo-American Corporation of SA Ltd
Mr A. Pittendrigh	Director, Natal Technikon
Miss C.C. Regnart	Westerford High School
Dr P. Smit	Vice-President, HSRC

Mr F.A. Sonn	Director, Peninsula Technikon, President, Union of Teachers' Associations
Mr J.F. Steyn	Chief Secretary, Transvaalse Onderwysers-vereniging; Secretary, Federal Council of Teachers' Associations
Prof. N.J. Swart	Vice-Rector, Potchefstroom University for Christian Higher Education
Mr L.M. Taunyane	President, Transvaal United African Teachers' Association
Dr P.J. van der Merwe	Deputy Director-General, Dept for Manpower; Deputy Chairman: National Manpower Commission
Prof. R.E. van der Ross	Principal, University of the Western Cape
Prof. F. van der Stoep	Dean, Faculty of Education, University of Pretoria
Prof. N.T. van Loggerenberg	Dean, Faculty of Education, University of the OFS; Chairman, SA Teachers' Council for Whites
Dr P.H. Venter	Director, Univ. Affairs, Dept of National Education
Prof. W.B. Vosloo	Head, Dept of Political Science and Public Administration, University of Stellenbosch

After the investigation had been in progress for some months, a request was received from the Department of National Education of South West Africa that it be granted observer status on the Main Committee - this was approved.

From the fifth meeting of the Main Committee Mr J.A. de Jager, Secretary of the Department, therefore also attended meetings of the Main Committee.

At the beginning of the investigation Dr S.W.H. Engelbrecht was appointed secretary and Dr F.P. Groenewald co-ordinator of the investigation. In due course the secretariat was expanded with the appointment of Dr D.J. van den Berg, after which the above-mentioned three persons acted as secretary-co-ordinators. Mr C.P. Serfontein was later appointed assistant co-ordinator. During the last phase of the investigation the secretariat was further expanded when Prof. J. McG. Niven of the University of Natal was seconded to the HSRC for three months, from February to May 1981. The

administrative staff consisted of Mrs I.S. Samuel, Mrs A. van der Lingen, Miss J.M. Botha, Mrs S. van der Walt and other temporary staff.

OPERATIONALIZATION OF THE RESEARCH REQUEST

The operationalization of the research request resulted in the establishment of 18 work committees each being responsible for a different aspect of education. Although all the work committees were not identified at the first meeting, the following work committees were eventually established. (For each work committee the name of the Chairman is given who in all cases had to be a member of the Main Committee. The Chairman of the Main Committee is ex officio member of all the work committees.)

Educational principles and policy	Prof. F. van der Stoep
Educational Management	Dr K.B. Hartshorne
Education financing	Dr S.S. Brand
Education system planning	Mr J.B. Haasbroek
Curriculum development	Prof. F. van der Stoep
Guidance	Miss C.C. Regnart
Education for children with special educational needs	Dr J.G. Garbers
Building services	Mr F.A. Sonn
Health, medical and paramedical services	Mr R.D. Nobin
Demography, education and manpower	Dr P.J. van der Merwe
Teaching of the natural sciences, Mathematics and technical subjects	Mr J.B. Haasbroek
Recruiting and training of teachers	Prof. N.T. van Loggerenberg
Innovation strategies in education	Prof. W.B. Vosloo
A programme for education of equal quality	Prof. R.E. van der Ross
Legal matters	Mr M.C. O'Dowd
Educational technology	Mr A. Pittendrigh
Languages and language instruction	Dr P.R.T. Nel

Education bibliography

Only in the case of the last work committee was a chairman not appointed from the Main Committee. Miss H.J. Otto of the HSRC library compiled the bibliography for each of the work committees.

During the last stages of the investigation a synthesis committee was appointed to consolidate especially the work of three work committees, namely Education management, Education system planning and Education financing. The Chairman of the Main Committee of the investigation into Education was appointed chairman of the synthesis committee.

THE FIELD OF THIS REPORT AND THE COMPOSITION OF THE WORK COMMITTEE

This report deals with the activities of the Work Commitee: Curriculum development. The first meeting of this work committee took place on 1 October 1980, but was preceded by a seminar on curriculum development in the RSA held on 5 September 1980. After the work committee's first meeting three additional meetings took place before the work committee's final report was submitted to the Main Committee. Prof. F. van der Stoep, dean of the Faculty of Education of the University of Pretoria and a member of the Main Committee, was, as previously indicated, appointed chairman of this work committee. The Work Committee: Curriculum development consisted of the following persons:

Prof. F. van der Stoep (Chairman)	: University of Pretoria
Mr G.J. Braam	: Rand College of Education
Mr R.L. Charles	: Department of the Interior (Indian Affairs)
Prof. P.A. Duminy	: University of Zululand
Mr J.B. Haasbroek	: Human Science Research Council
Dr J.S. Hill	: Transvaal Education Department
Prof. R.A. Krüger	: Rand Afrikaans University
Prof. J. McG. Niven	: University of Natal

Mr A.J. Thembela	: University of Zululand
Prof. N.T. van Loggerenberg	: University of the OFS
Dr J.H.H. Visagie	: Cape Department of Education
Dr S.W.H. Engelbrecht (Secretary)	: Human Science Research Council
Mr C.P. Serfontein (Co-ordinator)	: Human Science Research Council

The work committee met on the following dates and from the third meeting an observer from South West Africa also attended the meetings:

Wednesday	October 1 1980
Thursday	November 27 1980
Thursday	February 5 1981
Wednesday	April 15 1981

In the planning of the research the Work Committee: Curriculum development identified the following areas as being relevant to the course of the investigation and to the subsequent report:

1. Equivalence in diversity in terms of the functioning of the principles
2. Objectives with the curriculum
3. Curriculum models
4. Formulation and classification of learning objectives
5. Differentiation principles in respect of curriculating
6. Study group for principles of curriculating
   - 6.1 Curriculum development principles
   - 6.2 Interdependence of curriculum and syllabus and in particular the matter of core syllabi
   - 6.3 The present curriculum situation in the RSA
7. Entrance requirements to phases and types of education.
8. Entrance requirements to training outside the school context

9. Centralised and decentralised research support in curriculating

10. The teacher and curriculum innovation

11. The teaching profession's participation in curriculum matters

12. Basic principles that should apply to curriculum development in terms of the situation in the RSA

13. The relevance of the research themes to Black Education

14. Classification and distribution of the content

15. Principles and practice of content selection

16. Evaluation principles, procedures and examination.

Work groups were organised in the following centres during September and October 1980 to investigate the above-mentioned themes and to report to the work committee before 28 February 1981:

(i) Cape Town: Convenor, Prof. I. de V. Heyns
The following institutions were organised at this point:
The University of Cape Town,
Cape Technikon,
Mowbray Training College,
Barclay House Training College

(ii) Cape Town: Convenor, Prof. A.J.J. Cupido
The University of the Western Cape
Peninsula Technikon

(iii) Stellenbosch: Convenor, Prof. J. Cawood
University of Stellenbosch
Paarl Training College
Peninsula Technikon

(iv) Port Elizabeth: Convenor, Prof. C. Taylor
University of Port Elizabeth
Port Elizabeth College of Education
Technikon Port Elizabeth

(v) Grahamstown: Convenor, Prof. A. Noble
Rhodes University
University of Fort Hare

(vi) Bloemfontein: Convenor, Prof. P.F. Theron
University of the Orange Free State
Bloemfontein College of Education

(vii) Natal: Convenor, Prof. J. McG. Niven
University of Natal
Edgewood College of Education
Natal Training College
Technikon Natal
Technical College Pietermaritzburg
Maritzburg College

(viii) Durban: Convenor, Prof. B.F. Nel
University of Durban-Westville
Springfield College of Education
South African Teachers' Association
M.L. Sultan Technikon
Durban College of Education
Natal Department of Education

(ix) Empangeni: Convenor, Mr A. Thembela
University of Zululand in collaboration with
the University of the North

(x) Johannesburg: Convenor, Mr G.J. Braam
University of the Witwatersrand
Johannesburg College of Education
Rand Teachers' College
Transvaal College of Education

(xi) Johannesburg: Convenor, Prof. R.A. Krüger
Rand Afrikaans University

Soweto College of Education
Technikon Witwatersrand

(xii) Potchefstroom: Convenor, Prof. H.B. Kruger
Potchefstroom University for Christian Higher Education
Potchefstroom College of Education
Vaal Triangle Technikon

(xiii) Pretoria: Convenor, Prof. W.J. Louw
University of Pretoria
Pretoria College of Education
Technikon Pretoria

(xiv) Pretoria: Convenor, Dr. J.S. Hill
Co-workers: Transvaal Education Department
Cape Department of Education
Natal Department of Education
Department of Education of the OFS
The Committee of University Principles
Department of Internal Affairs (Indian Affairs)
Department of Education and Training
Department of Internal Affairs (Coloured Affairs)
Discussions were conducted with representatives from the national states and from whom contributions were received.

Each of these groups subdivided and organised the research assignment in their own way in terms of budget, subprojects, the writing of reports, etc.

A single topic, namely The Learner by Prof. M.C.H. Sonnekus and Dr. S.F.M. Crous of the University of Pretoria was completed in the form of contract research.

The Work Committee: Curriculum development selected the following persons to form a small committee for the writing of the report

Prof. F. van der Stoep (Chairman)
Prof. J. McG. Niven

Dr. J.S. Hill
Prof. R.A. Krüger

The work committee would like to express its gratitude to the HSRC and the Director: Investigation into Education, Prof. J.P. de Lange, for putting the services of Proff. Krüger, Niven and Dr Hill at the disposal of the committee to work on this report in a full-time capacity during January through March 1981. Appreciation is also expressed to the Transvaal Department of Education, the Rand Afrikaans University and the University of Natal who were willing to do without the services of the above-mentioned persons in order to ensure the progress of the investigation.

The committee would also unreservedly like to mention the excellent supporting services rendered by Dr S.W.H. Engelbrecht of the HSRC who acted as secretary to the Work Committee: Curriculum development.

The committee considered the principles for education in the RSA throughout the writing of the report without directly referring to them. The reason for this procedure is that as far as curriculum development is concerned it would result in theorizing. In considering the principles for the provision of education the committee concentrated on the first principle which deals with equal educational opportunities and equal standards of education.

CHAPTER 1

PRESENT CURRICULUM SITUATION IN THE RSA

1.1 INTRODUCTION

In what follows a survey is given based on information gained from literature, from interviews with officials of different departments of education and comments by senior officials of these departments of what is done in respect of curriculating (i.e. curriculum design, development and evaluation).

1.2 PRE-PRIMARY EDUCATION

In the following paragraphs attention will briefly be given to the content that is offered in schools for pre-primary education.

1.2.1 Curriculum

The following provision is made in the different departments of education.

1.2.1.1 For Whites

In the provinces there are departmental, private and subsidized pre-primary schools. The programme makes provision for a fixed routine and includes moral and religious education, creative activities, language development, music, singing and motion. No formal teaching is permitted. Informal activities in which the infants take part, individually or in groups, provide the basis for intellectual, moral and social growth.

One of the departments provides the above-mentioned pre-primary schools with manuals which, among other things contain copious guidelines regarding the proposed content and activities. The following are a few of the main items that appear under the heading: curriculum:

(a) Language development

(Stories, talks, verses, et cetera).

(b) World orientation

(Animal care, population groups, transport, et cetera).

(c) Creative manual activities

(Woodwork, painting, sand-play, et cetera).

(d) Singing, music and motion

(Percussion band, song games, et cetera).

Co-ordination in respect of all aspects of pre-primary education is brought about by the CHE* and its Interdepartmental Advisory Committee for Pre-primary Education.

1.2.1.2 For Coloureds

- There is no definite policy in respect of pre-primary education.
- Pre-primary education is still managed by private institutions.
- A per capita subsidy is made to private schools.
- There is no fixed curriculum for these schools.

1.2.1.3 For Indians

Although Act 61 of 1965 makes provision for the establishment of pre-primary schools, the policy at the present time is to subsidise registered private pre-primary schools. The Department has not yet officially assumed responsibility for pre-primary education. Nor do they have the necessary qualified personnel at their disposal. The existing schools are all registered schools that are subsidised by the Department.

Since training often leaves much to be desired and even unqualified teachers are employed, there are as yet no signs of organising a programme.

* Committee of Heads of Education

1.2.1.4 For Blacks

All pre-primary schools are as yet still private schools that provide education to children aged three to six.

Fresh interest in pre-primary education has led to the planning of pre-primary schools on an experimental level. Black pre-primary education is still in a planning stage.

Before attention can be given to a programme, better training will have to be provided for teachers, including retraining of the present teachers.

1.2.2 Syllabus

There are formal syllabi for pre-primary education.

1.2.3 Curriculating

As far as the curriculum for pre-primary education is concerned, it is clear that sporadic attempts have been made to furnish teachers with directives for the orientation and tuition of children attending pre-primary schools.

In some departments of education the guidance is more specific and detailed, trained personnel are on hand to handle the programme and co-ordination takes place to a certain extent within, but also outside their own ranks.

As yet there is no mention of scientific curriculating on a departmental or national basis in the RSA.

1.2.4 Summary

It will be necessary to pay attention to the possibility of presenting pre-primary programmes chiefly to children who are culturally, economically and socially handicapped and who are in no way ready for the formal programmes presented in junior primary education.

Owing to the cultural and other differences between the population groups of the RSA, it is not only necessary to make available programmes and manuals, but it is also essential that these documents be scientifically compiled and tested for their suitability and effectiveness.

1.3 PRIMARY EDUCATION

As far as the cirriculum is concerned, the following can be stated:

1.3.1 Curriculum

In the different departments of education the situation is as follows:

1.3.1.1 For Whites

As a result of the co-ordinating function of the CHE the curricula for primary education in the different provinces agree in the main. Thus, for example, the following subjects are offered for Std 4 in the case of one department:

Religious instruction
First Language
Second Language
Mathematics
Environmental Studies
Hygiene
History
Geography
Physical Science
Bantu Language
Art education
Physical education
Handwriting
Media-use instruction
Guidance
School music

1.3.1.2 For Coloureds

According to an information document of the Department of Internal Affairs (Coloured Affairs) dated 11 November 1980, the curriculum of schools for Coloureds agrees with that of the CED* (p. 2, Par. 2.1) and thus it can be assumed that it will not in essence differ from the curriculum as set out above.

1.3.1.3 For Indians

- The curriculum of the Natal Department of Education is followed.
- Religious instruction is replaced by a series of lessons on Right Living which include the principles of courtesy and goodwill.
- The Indian community has requested that the different Indian languages be taken up in the curriculum as a subject, but it is at this stage not being considered.
- The teaching of the vernaculars is undertaken extracurricularly by the communities.

1.3.1.4 For Blacks

The curriculum for schools for Black pupils in White administration areas, as approved by the Department of Education and Training for implementation as from 1982, is as follows with regard to Std 4:

Divine Service
Religious Instruction
Physical Education
Black Language
First Official Language
Second Official Language
Mathematics
Hygiene
Geography
History

* Cape Education Department

General Science
Optional subject (1)
Optional subject (2)

As from 1982 the medium of instruction up to the end of Std 2 will be the vernacular, after which the school will offer a choice between Afrikaans, English and the vernacular.

1.3.2 Syllabi

A syllabus is a short summary of compulsory and optional topics or themes relating to a particular subject which has to be taught on a specified level and over a stipulated period of time.

A core syllabus, as it is known in the RSA, is a syllabus which is compiled by the CHE and which is both common to and binding as regards all departments of education that fall under the jurisdiction of the CHE.

1.3.2.1 For Whites

The core syllabi compiled by interdepartmental syllabus committees are adapted by the different provinces to suit each individual pattern. As far as subject content is concerned, the syllabi of the provincial departments of education therefore correspond to a great extent.

1.3.2.2 For Coloureds

The syllabi of the Cape Department of Education is taken as a basis for the drawing up of individual syllabi. In order to guide the mainly untrained personnel the syllabi are expounded in great detail and are supplemented by manuals on method and approach. The latter task is undertaken by the Department's subject committees.

1.3.2.3 For Indians

The syllabi of the Natal Department of Education are followed without modification except in the case of the syllabus for Religious Instruction.

1.3.2.4 For Blacks

Subject committees compile the syllabi and as far as content and requirements are concerned, they are kept as near as possible to that of the provincial core syllabi. A good deal is added however to provide for individual needs.

1.3.3 Curriculating

As far as primary education is concerned, curriculating has in almost all cases followed traditional procedures, but for the fact that a greater measure of co-ordination and co-operation was present, especially as regards the provincial departments of education. The implementation of the present revised syllabi, was neither preceded nor supported by scientific curriculating procedures, but the way in which they were compiled offered scope for a degree of testing and evaluation. The TED is however at present launching ten syllabus research projects at more than forty schools. The aim is to evaluate the recently implemented and revised syllabi continuously and systematically and to test proposals for improvement or innovation scientifically.

1.3.4 Summary

As far as the departments of education for Whites are concerned, a great degree of co-ordination and co-operation is noticeable in respect of the design of curricula and syllabi. Scientific curriculating is, however, in an initial stage as far as primary education is concerned, and is mainly undertaken by provincial departments of education.

1.4 SECONDARY EDUCATION

1.4.1 The curriculum for secondary education

1.4.1.1 For Whites

Matters concerning the curriculum are co-ordinated by the CHE on the advice of its Interdepartmental Advisory Committee for Differentiation, Curriculum and Guidance in Secondary Schools (IDCGS). Consequently education in

schools for Whites is organised according to a common curriculum which makes enough allowance for individual departments to select and arrange content within reasonable limits according to individual needs and circumstances. For the junior secondary phase (Ordinary Course) the compulsory examination subjects are as follows:

Afrikaans/English (First Language)
English/Afrikaans (Second Language)
Mathematics
General Science
History
Geography
Technical Orientation

In the case of the senior secondary phase (Ordinary Course) the compulsory examination subjects are as follows:

Afrikaans/English (First Language)
English/Afrikaans (Second Language)
Optional subjects (4)
Non-examination subjects (3)

Secondary education is devided into two streams: the Ordinary and the Practical Course.

The courses each run in two phases: For the Ordinary Course the junior secondary phase consists of three consecutive years, namely Stds 5, 6 and 7 whereas for the Practical Course it consists of the three years extending over Stds 6, 7 and 8. The senior secondary phase for the Ordinary Course also consists of three years, namely for Stds 8, 9 and 10 whereas the senior phase for the Practical Course consists of two years, namely Stds 9 and 10. Compliance with certain JMB* requirements regarding subjects, subject combinations and achievement can lead to university entrance in the case of the Ordinary Course. The Practical Course terminates in Std 10 and does not offer admission to tertiary training. It was, as is known, introduced for pupils who could not derive benefit from instruction in the Ordinary Course.

* Joint Matriculation Board

In the junior secondary phase a degree of choice regarding subjects is possible, whereas in the case of the senior phases eight study courses are possible in the case of the Ordinary Course and five in the case of the Practical Course from which a pupil can choose. A Course or study course is characterised by the particular selection of subjects. Pupils are aided in making a more meaningful choice by offering the optional subjects in certain groups called subject sets.

1.4.1.2 For Coloureds

In the Department of Internal Affairs (Coloured Affairs) the Director of Education is authorized to make final decisions regarding the revision of curricula and is advised on matters by an examination board. The examination board considers recommendations made by three committees. One of these is the Committee for Secondary Education.

The curriculum implemented by the Cape Department of Education serves as a model and therefore it is to be expected that the curriculum will to a large extent correspond to the curriculum for secondary schools for Whites.

Co-operation with other departments of education is considered to be poor, especially as this department does not have a right of say or representation for an example the CHE where important decisions concerning White education are made with particular strong influence and implications for the total curriculum (subjects, subject syllabi, etc.) of educational institutions in the RSA.

1.4.1.3 For Indians

The Natal Department of Education curriculum serves as a model for Indian education and therefore it is again to be expected that the curriculum will to a large extent correspond to that of White education.

1.4.1.4 For Blacks

The administration and control of education for Blacks are in the hands of two bodies:

- in the White areas the Department of Education and Training and
- in the Black national states the departments of education concerned.

After deliberation among the above-mentioned departments a school programme that would extend over twelve years was decided on. This new structure was proposed in 1975 and implemented in 1976 and corresponds to a large extent to those of other departments in the RSA. The new structure is composed as follows:

- Junior secondary phase: Stds 6, 7 and 8
- Senior secondary phase: Stds 9 and 10.

The subjects offered for Std 10 are indicated below:

Divine service
Religious instruction
Music
Physical Education
Black language
Afrikaans
English
Optional subjects (3)
Guidance

An investigation of the curriculum for the secondary school shows that seven study courses are offered. Within each study course a greater or lesser degree of option is to be found in connection with subjects regarded as meaningful in a particular study course.

1.4.2 Syllabi

As far as syllabi for secondary education are concerned the position is as follows:

1.4.2.1 For Whites

Core syllabi are compiled by interdepartmental and joint syllabus committees (in cases where the JMB has an interest) for the CHE. Individual departments of education adapt these syllabi, within specified limits, for their own use. An important requirement is that nothing may be omitted from the core syllabi.

Schools for special education also make use of the existing approved CHE core syllabi. The core syllabi have built-in possibilities for enrichment and in the case of special education, possibilities for adaptation to meet the particular needs of handicapped children. These adaptations are orthopedagogically and orthodidatically justifiable and always bear in mind the transfer of these children to ordinary education. Adaptations in no way imply a watering down of the syllabus. The proficiency, interest, attitude intellectual and physical abilities of the pupil are taken into consideration. As far as the Special Course is concerned, the various departments of education are at liberty to follow syllabi that meet their requirements. This concession is of particular importance to pupils in special education following the special course. They are multiply handicapped and can only be trained for specific types of work that are generally related to sheltered labour or screened work.

1.4.2.2 For Coloureds

The Committee for Secondary Education compiles new or revised syllabi and the Examination Board submits them to the Director for approval. Use is made of the CHE core syllabi, which, where applicable, have been accepted by the JMB.

As in the case of provincial departments of education, use is also made of committees to compile syllabi. Inspectors, college lecturers and teachers serve on such committees.

1.4.2.3 For Indians

As in the case of other departments of education for Non-Whites, the core syllabi compiled by the CHE (in conjunction with the JMB where applicable) are taken as a point of departure for the compilation of their own syllabi.

The Division for Indian Education has, as in the case of other departments of education for Non-Whites Education, observer status in interdepartmental syllabus committees and full membership of the common syllabus committees in which the JMB is involved.

1.4.2.4 For Blacks

The syllabi for Std 5 and higher are based on the core syllabi compiled by the interdepartmental committees of the CHE and in the case of secondary education on those of the joint syllabus committees in which the JMB is involved. The CHE core syllabi are taken as the basis and the point of departure for all syllabi. The Department of Education and Training has only observer status on interdepartmental syllabus committees and therefore plays no direct role.

Where necessary core syllabi are adapted to make provision for local circumstances and are defined and differentiated in more detail. At the Std 9 and 10 level the Department of Education and Training uses the Department of National Education syllabi without any adaptations.

1.4.3 Curriculating

As departments of education provided extensive information on curriculating, the matter is discussed under the following headings:

1.4.3.1 Departments of education for Whites

a) CHE

As far as curriculating, as the systematic design, development and evaluation of a curriculum in all its detail (amongst others, syllabi) is concerned, a specific procedure (modus

operandi approved by the CHE in 1980) is at present being implemented on a co-ordinated basis.

According to this procedure the secondary school subjects are, for research purposes, divided among the provincial departments of education. A department then appoints a research committee in respect of each subject allotted to it, which co-ordinates its own research and proposals with those of other provinces in the form of proposals which are submitted to the CHE for approval via the ordinary departmental channels. The CHE refers the proposals to interdepartmental committees or joint committees for comments and recommendations. These committees consider the interdepartmental research results in respect of syllabus content and revision and hence compile draft syllabi for the consideration of the CHE. New or revised syllabi are submitted to the Minister of National Education for approval.

b) TED

Research committees, called project committees in the TED, were established for all those subjects that the Curriculum Section of the TED can cope with. This includes subjects that have been allotted to the TED by the CHE for research purposes, but in addition other subjects which are consistently in need of curriculum improvement.

Each project committee is assisted by a work committee which works out the project committee's planning in great detail and also has a close connection with participating schools, as the members come from schools taking part in the projects. In both instances the chairman is the inspector of education for a specific subject, whereas the corresponding member of the personnel of the Curriculum Section in both cases acts as the secretary-researcher.

The project committees are not only responsible for the general planning, but also for the supervision of the project and therefore university professors and representatives of the JMB are co-opted as members.

A participating school's representative on the committee is responsible for the implementation of the project in classes at the particular school.

Exemption from external examinations is obtained from the JMB if and when necessary for the implementation of projects in the senior secondary phase. The blanket committee which supervises all the planned projects and reports to the Director annually is the Planning and Supervisory Committee for the Transvaal.

The TED has developed the following organisational structure for cirriculating.

In the TED there is a study committee, a research committee (project and work committee) and a syllabus committee for each subject. The latter are ad hoc committees that only function when new syllabi have to be compiled or when core syllabi have to be adapted. The inspector of education (for the subject) is the chairman of each of these committees (co-ordination!).

The said inspectors of education are divided into six groups and each group is under the leadership of an academic subject head who is responsible for the co-ordination of subject matter pertaining to related groups of subjects. The academic subject heads are guided by an assistant director who is responsible to a specific deputy director.

c) OFS Department of Education

Because both the OFS Department of Education and its Bureau of Education have few expert personnel at their disposal, a separate curriculum development committee which can undertake systematic curriculating is not possible. The following committees are however used in this regard:

- Departmental subject committees:

  A subject committee is assigned to each subject, course or field. These committees advise the Department on all matters pertaining to the subject, course or field of study and therefore also on all aspects of the curriculum of a subject.

- Departmental advisory committee:

  This is a blanket committee that advises the Director of Education on, among other things, curricula and syllabi.

- Study groups

  For each subject the teachers concerned form regional study groups on a voluntary basis.

- Departmental research committees:

  The OFS has appointed such a committee for each subject for which it is responsible.

When syllabi are implemented and tested, the inspector plays an important part, namely that of link between the school and the Department of Education. He identifies problems and arranges for these to be handled by the appropriate committee.

The CHE is at present moving in the direction of scientific curriculating, but it remains to be seen whether this research will in all respects satisfy the requirements. Further research in this regard is necessary.

d) CED

According to information supplied by the representative of the Cape Department of Education (CED) it appears that the Department carries out the CHE modus operandi regarding curriculating meticulously.

e) NED

In the case of the Natal Department of Education the development of syllabi is undertaken by subject committees under the chief educational planner (academic). A subject committee functions under the chairmanship of a subject advisor who is responsible for a specific subject. The work of the subject committees consists of the compilation of Natal syllabi based on the core syllabi.

The research which should be undertaken and which is at present done by the subject committees in conjunction with teachers in schools presents a problem in the NED. Research is time-consuming and the members of the subject committees are people who do not have the time to do justice to research. Additional personnel is therefore necessary but due to inadequate financial provision it is not possible for the Department to appoint personnel solely for this purpose.

f) DNE

As far as the Department of National Education is concerned, the following is applicable:

Adaptations to the curricula and continuous evaluation are scientifically grounded and take into account the abilities of the handicapped pupils for whom curriculum facilities must be provided. Furthermore aspects such as, inter alia, remediation, differentiation in tempo, the use of suitable aids and examinations which offer the pupil opportunities to reproduce his acquired knowledge in different ways as well as continuous consultation receive the attention of all staff members. The inspectorate and educational planners in close co-operation with the experienced and skilled staff of schools for handicapped pupils have an important function to fulfil. They advise, guide, initiate and plan educational experimentation and evaluate results. Adaptation to the syllabi and the way they are put into practice take place in an organized manner.

1.4.3.2 Division for Coloured Education (Department of Internal Affairs)

At present there is little mention of evaluation of the curriculum as such and therefore, too, no signs of continuous evaluation with subsequent revision of the curriculum. In as far as there is talk of curriculum development, it takes place principally on an ad hoc basis. The Bureau of Education of the Division for Coloured Education is still in the initial stage and at present serves as more of an information bureau to the directorate of education. At present there are no specific duties which have been allocated to the Bureau of Education.

As far as the incorporation of research is concerned, the following: The HSRC deals with the basic or applied research regarding school matters as is requested from time to time by the Division for Coloured Education. Within the Division itself there is little mention of research on curriculating, and even less with regard to implementation-research.

The Department's Division for Education is relatively young (established in 1964 on an ethnic basis) and is still developing in respect of special services, for example curriculating in education. There is a shortage of properly trained and experienced personnel in certain areas and the Division is particularly understaffed in the field of research.

There is however a serious need for research services especially as regards curriculating, which through a special agency, could also be of service to this Division on a national level.

1.4.3.3 Division for Indian Education (Department of Internal Affairs)

- For each subject there are committees under chairmanship of an inspector of education. Representatives from the university, college of education and the profession serve on these committees. They advise on a variety of subject matters and contribute to publications in the Division's quarterly.
- The services rendered by inspectors of education and other senior personnel as well as the facilities and communication

possibilities offered by regional and local centres should be mentioned.

- In the future planning of the Division the intention is to co-ordinate curriculum development, with special reference to subjects. With this object in view a central curriculum committee, a central research team and regional and local centres (education centres) will play an important part.
- The Division is continuously engaged in research on certain aspects concerning the curriculum in all its detail.

1.4.3.4 Department of Education and Training

Research whether done by the HSRC, subject advisors or other persons, is referred to the subject committees for evaluation and for possible updating of the subject concerned. A senior official of this Department is convinced that an overhead curriculum institution, in which all departments of education are represented is necessary for the sake of proper co-ordination and standards.

1.4.4 Summary

As far as the curriculum for secondary education in the RSA is concerned, it is evident that the influence of the JMB is decisive for all departments of education on account of its grouping requirements. The secondary school curriculum is consequently university entrance directed to a large degree. This also applies to vocationally directed courses, for example the technical field of study.

The same university orientation is found in subject syllabi compiled by the joint syllabus committees on which the JMB exercises a strong influence.

Departmental syllabus committees do adapt the content to meet their individual requirements, but they may not omit anything from the core syllabi.

Organised curriculating exists in all departments of education. Curricula and syllabi are usually compiled or revised by representative departmental committees. As far as education for Whites is concerned, these activities

are effectively co-ordinated by the CHE and its committees, for example the Interdepartmental Committees for Differentiation, Curriculum and Guidance (Secondary Education).

Not everywhere in the RSA is justice done as far as scientific curriculating as the basis for justifiable selection, arrangement and evaluation of content, is concerned. The CHE's move in this direction , as manifested in the recently (1980) approved modus operandi, is a move forward.

Departments of education agree that scientific curriculating is necessary to ensure that curricula and syllabi are continuously and scientifically evaluated, improved and renewed in the light of the requirements of the individual, society, the employer and further education.

1.5 VOCATIONAL AND TERTIARY EDUCATION

1.5.1 Technical colleges

The most important determining factor in the design of curricula for apprentice courses at the pre-tertiary level is the amended Apprentices Act (1944). According to this Act aspects such as the intended trade should be borne in mind when compiling any curriculum for an apprentice course. The apprentice should take a theory of trade which has a bearing on the trade for which he has been entered and usually three other supporting subjects such as Mathematics, Science and Drawing.

The curricula for non-apprentice courses are compiled by the Department of National Education in close co-operation with the organised teaching profession and the employers (commerce and industry).

The practical training schedule, as required by the various industries via the Department of Mannpower for the different trades, is the basis according to which syllabi are compiled for the theory of the trade. The Apprentices Act does not prescribe the contents of tertiary courses. The organised teaching profession undertakes the drawing up of syllabi for tertiary apprentice courses. At times expert lecturers are seconded. The Department of National Education expects that the drafting of the syllabi be done in

co-operation with employers as the aim of these courses is a service to the latter.

As far as the syllabi of other courses are concerned, the content is compiled, implemented, evaluated and, where necessary, adapted by the Department in close co-operation with the organised teaching profession and the employers.

1.5.2 Technikons

Each technikon has advisory curriculating committees for the fields of study in which they are interested. Each committee is representative of the employers concerned as well as the subject experts. Close liaison is also maintained between the technikons. Common core syllabi are followed by all institutions. The advisory curriculating committee continuously keeps in touch with developments in industry and the organisations which train technicians, and curricula and syllabi are adapted within the framework of the general regulations as and when required. Quite often the Department of National Education is approached by employer organisations for advice and then takes the initiative. The normal procedure, as followed from 1968, is that the technikon concerned accepts responsibility for a particular revisionary function in the case of a particular subject. The admendments or new courses and syllabi are then dealt with under their leadership and in collaboration with the employers. Afterwards the proposals are circulated to all the other technikons for comment and after consensus has been reached, the proposals go to the Association of Technikons. If this body is satisfied, the proposals are submitted to the Department of National Education for consideration and approval.

In general the technikons' approach to curriculating comprises the following:

- The postulation of learning aims in behavioural terms. This amounts to innovation in the way in which the syllabi are compiled and the form in which they are written.
- Innovation in instruction, with greater stress on selection and suitable instructional strategies, the making available of

suitable instructional media and the implementation of media selection.

1.6 COLLEGES OF EDUCATION

The curricula for diploma courses and the syllabi for subjects are drawn up by committees on which both colleges of education and the universities are represented, and are submitted to the College Senate and (if applicable) to the University Senate for approval.

1.7 UNIVERSITIES

In the case of all universities save one a form of guidance and aid is available to lecturers to aid them in designing courses, in the presentation of lectures, in examining and testing of students and in the evaluation of courses. Here too all aspects of the programme have not been developed to the same extent at all universities. Thirteen universities have formal units served by their own personnel; in the case of two universities these services are rendered voluntarily by members of the academic staff.

Most universities offer courses in aspects of curriculum development. These courses vary from a few lectures, seminars and work groups offered at the beginning of the academic year to continuous courses which comprise one meeting per week. The attendance of such courses is encouraged by most universities but it is voluntary.

Formal development of the curriculum is a relatively new undertaking at the universities. Until now it has not wholly permeated any institution, although the development of a curriculum in the case of a faculty as a whole has in the case of some universities been undertaken by certain faculties. With the exception of one university, it appears that the need and potential for curriculum development does exist and that such development will be extended. With the exception of the one university previous mentioned, even universities that do not have formal organisations at their disposal, make considerable efforts to improve the quality of their instruction and to plan their instruction more thoroughly.

Syllabus design and approval procedures agree to a large extent at all universities in the RSA. The syllabus of a course in the case of a particular subject, for example Mathematics 1, or adjustments to it, is submitted by the department concerned to the faculty council in which the subject is offered.

The issue concerning the recognition of courses passed at one institution by another institution (technikon) is consequently much more complex than the recognition of courses between two institutions of the same kind. A commission advocated the necessity of closer co-operation between universities and technikons and especially stressed the necessity of the building of bridges to enable students to move more readily between them. It would appear that little has come of these proposals. This may be a result of problems connected with the different functions of the institutions.

1.8 NON-FORMAL INSTRUCTION

According to available information it appears that institutions outside formal education are doing their utmost to offer good and effective courses. The objective of these courses is usually orientation, information, guidance or the development of specific skills. Planning usually ends in the compilation of a programme, curriculum or syllabus which is presented by authorities or experts in that field.

In the planning attention is paid to the formulation of objectives, to the selection and arrangement of content and to the introduction of media to best support the presentation. If possible, staff with teaching experience are appointed to assist or even take the initiative in designing courses. It is evident that there is a need for persons or institutions who can give expert guidance as regards the design, implementation and evaluation of course content.

A particular deficiency mentioned by a few people, but which possibly has a wider range, is that syllabi and other documents which indicate the topics to be studied are inadequately specified or are not accompanied by explanatory and illuminating manuals for the benefit of the lecturer.

This leads to time-wasting confusion and uncertainty in the case of the lecturer and the student as well as to a break in continuity if the lecturer is replaced.

1.9 CONCLUSIONS AND RECOMMENDATIONS

The following deductions and recommendations can be made regarding the fore-going:

1.9.1 Pre-primary education

The need for education at this level is increasing among all population groups, but in the case of the Black population groups it is a matter of particular urgency as few of these children are ready for school when entering pre-primary education.

It is recommended that organised aid in the form of eg. manuals, which, among others, contain directives for the design of an effective educational programme or curriculum is made available to teachers country-wide in order to bring the school readiness of as many pre-school children as possible to an acceptable level.

1.9.2 Primary education

Outwardly it appears that primary education curricula differ little as far as the various population groups are concerned but for the fact that language requirements for Non-Whites (and people using other languages) imply a heavier instructional and learning load owing to their foreign language not being one of the official languages. It is also evident that primary education for Black pupils takes a year longer than is the case for other population groups (Grade I to Std 5).
The core syllabi which are compulsory for provincial departments of education are either taken over or adapted to a lesser or greater extent according to individual circumstances by the other departments of education in accordance with individual choice or decision.

It is clear that the scientific design and evaluation of syllabus content (curriculating) as regards primary education, has to date received limited

attention in the RSA, but that a few departments have realised its importance and have shaped it to an organised pattern.

Consequently the following is recommended as regards primary education:

(a) that an investigation be instituted as to the desirability and possible character of a core curriculum which would, as regards the extent (number of subjects) and time (roster/time-table), make equal eduational opportunity possible for all, but at the same time would make provision for cultural diversity;

(b) that core syllabi which indicate the basic requirements for minimum education be compiled in a scientific manner for consideration by departments of education for the core curriculum subjects that are of common interest.

1.9.3 Secondary education

The curricula of the different departments of education for secondary education show great similarity, and are mainly aimed at admission to university as the JMB requirements play a decisive role as far as matriculation is concerned, and also as the curricula for provincial schools, as compiled by the CHE, exercise a strong influence on the curriculum planning of other departments of education.

The syllabi for subjects in secondary education are, in the case of all departments of education, based on the CHE core syllabi. Owing to the influence of the JMB upon this the contents are mainly aimed at admission to university. The suitability of the present core syllabi for all population groups deserves further attention.

The CHE accepts the importance of the scientific testing of syllabi and have therefore, as far as the provincial departments of education are concerned, worked out and approved a procedure for the co-ordinated handling of scientific revision of subject syllabi.

It is therefore recommended that the curricula and subject syllabi for secondary education be scientifically revised (tested) as soos as possible

to ensure greater suitability for all population groups and in the light of the country's growing need for trained and specialised manpower at all levels of the professional world.

1.9.4 Tertiary education

As far as the design, development and revision of courses, curricula and syllabi are concerned, the following has been found regarding universities, technikons and colleges:

(a) Attempts at organised co-operation;

(b) co-operation with the professional world;

(c) obligatory consultation;

(d) handling by committees;

(e) the need for co-ordinated guidance regarding scientific curriculating;

(f) earnest endeavours to establish more justifiable procedures (eg. continuous evaluation);

(g) a shortage of manuals to interpret the often vaguely defined instructions properly.

It is recommended that a service be established that will advise and aid institutions of tertiary education in the scientific planning, design, development and revision of courses, curricula, syllabi and manuals.

1.9.5 Non-formal education

From the available information it appears that although much is done to design and revise suitable courses, curricula, syllabi and manuals, a demand and need for guidance, advice and aid in the area of the scientific handling of the matter exists in the case of most institutions offering training of some kind.

It is therefore recommended that in the case of non-formal education a specialised service be established to advise and help with the planning, design and revision of courses, curricula, subject syllabi and manuals

in a scientific manner and with the necessary co-ordination. It is furthermore recommended that documents which have been drawn up in this manner be certified as such.

1.10 SUMMARY

The foregoing can be summarized as follows:

1.10.1 With a view to the realization of the ideal of equal opportunities in education, it is necessary that urgent attention be paid to the school readiness of pre-school children. Programmes and manuals should be co-ordinated and be designed, developed and continuously evaluated scientifically for the use of all institutions offering this level of education (see Par. 1.9.2).

1.10.2 Differences in the basic requirements as they appear in the curricula and syllabi for primary education in the different departments of education and which are contrary to the principle of the provision of equal educational opportunities must be scientifically investigated with a view to recommendations for correction (see Par. 1.9.2).

1.10.3 The curricula and subject syllabi for secondary education in the RSA are mainly aimed at admission to university and do not adequately take into account the country's urgent need for vocational training at all levels of specialisation. Urgent evaluation and redesign are necessary to satisfy the demands of equal opportunities, of the country's need, of pupil capabilities and of further study (see Par. 1.9.3).

1.10.4 There is sufficient indication of a need for expert guidance at institutions of tertiary education in respect of scientific design, development and continuous evaluation of courses, curricula, syllabi and manuals. A service should be made available in this respect (see Par. 1.9.4).

1.10.5 In the case of institutions offering non-formal education there is also a need for advice regarding scientific curriculating in accordance with certain criteria and principles which increase the suitability of educational programmes. The value and acceptability of training programmes developed in such a way will enjoy greater recognition if the involvement of a specialised service is indicated.

1.11 COMPREHENSIVE RECOMMENDATION

A study of the recommendations in Par. 1.9 above undeniably suggests that there is a need for a highly specialised ancillary service which could, with the necessary co-ordination and in co-operation with educational institutions (formal and non-formal), design, develop and evaluate courses, curricula, syllabi and manuals in a scientifically justifiable manner.

The specialisation of this service and the personnel, the essential co-ordination with other educational services as well as the availability and obtainability of personnel and facilities lead to the conclusion that a central department or institute should be established to execute the curriculating function effectively and to operationalise it in a decentralised manner.

In the light of the foregoing it is therefore provisionally recommended at this early stage that the establishment of a national department or institute for curriculum development and research be urgently considered.

1.12 CO-WORKERS

The content of this chapter is based on contributions by the following persons and institutions:

(a) BEUKES, Mr C.: Department of Internal Affairs (Coloured Affairs).

(b) BROMMERT, Prof J.: Rhodes University.

(c) DE WAAL, J.J.: Department of Education, Gazankulu.

(d) EKSTEEN, Dr F.R.L.N.: Department of National Education.

(e) KRÜGER, Prof R.A.: Rand Afrikaans University.

(f) KUMALO, Mr M.S.D.: Department of Education, Kwazulu.

(g) LE ROUX, Mr J.J.: Department of Education, OFS.

(h) LUBBE, Mr A.N.P.: Department of Education and Training.

(i) MANS, Mr P.W.: Natal Department of Education.

(j) EDUCATION BUREAU: Staff of the Transvaal Department of Education.

(k) PATHER, Mr G.: Department of Internal Affairs (Indian Affairs).

(l) SPARGO, Mr P.E.: University of Cape Town.

(m) VISAGIE, Dr J.H.H.: Cape Department of Education.

CHAPTER 2

CURRICULUM PROBLEMS IDENTIFIED

After the present curriculating situation in the RSA has been reviewed and preliminary recommendations have been made, a few curriculating problems will subsequently be discussed.

2.1 THE PROBLEM OF EQUIVALENCE IN DIVERSITY IN THE PROVISION OF CURRICULA

The above problem which is elucidated in the following thirteen points is certainly the most oppressing as far as curriculating is concerned:

2.1.1 Equivalence amidst cultural differentiation

Curriculating has as basis the selection and orderly arrangement of cultural content and the translation of this content to educational content. In this respect curriculating is a cultural function. The concept culture includes all content of a particular culture which identified cultural groups jointly cultivate. Secondly the concept culture, as it is used here, points to aspects of life and content which the inhabitants of a country have in common (economy, sport, commerce, industry, technology, public functions, etc). The third level of culture is the international culture, universal cultural content and the total sphere of human knowledge and deeds of all time.

The problem lies in doing justice to all cultural levels in the provision of curricula.

2.1.2 Equivalence amidst a variety of systems

As was explained in Chapter 1 the present situation in the RSA is such that curriculating services in the various systems (Provincial, National Education, Coloured and Black Education, Indian Education, Technikons, etc.) are planned and executed in different ways and by different people. Consequently the question to be put is how equivalent curriculating can be achieved in such a multiplicity of systems. The possibility of core

curricula (fuller educational programme) for all and not only core syllabi (minimum content) will have to be carefully studied.

2.1.3 The difference in environmental influence

Many examples of environmental influence and progress in school are found in literature. Children from a poor environment are usually culturally poor and lacking in vacabulary and concepts. On the other hand children from a well-to-do environment are more capable of assimilating the learning content and the concepts which are included in the ordinary curriculum. The problem in this regard is how to achieve equivalence in curriculating amidst the great differences in environmental influence that exist in the RSA.

2.1.4 The difference in logistic provision

In the present system there are great differences regarding the physical provision of facilities for the implementation of the curriculum. The problem is to plan the logistic provision in such a way that equivalence in curriculating is possible. For total curriculating, matters such as class space, class sizes, the availability of text books and sources are taken into consideration.

2.1.5 The availability of trained teachers

When curricula of equal quality are designed and made available it implies that the training of teachers who must implement the curricula should be of such a nature that they are able to put them into practice on an equal basis in the various schools and institutions. Teacher training is a high priority for equivalence in curriculating.

2.1.6 Equivalence in the provision of curricula

The core syllabi, core curricula and subject curricula that are planned should also be equivalent. Equivalence also means equality as far as evaluation is concerned. Without centralised evaluation equal standards are difficult to determine or prove.

2.1.7 Equivalence in curriculating inputs and the Principles for the Provision of Education

At present curriculating takes place according to ostensibly divergent principles; now that a set of Principles for the Provision of Education in the RSA have been formulated, equivalent curriculating should be modelled on the principles indicated by preliminary investigation.

2.1.8 The problem of differentiation

Curriculating should be geared to the pursuit of equivalence of differentiated courses across the whole spectrum (and not only in respect of secondary instruction). Although it is a vast problem, curriculating should be equivalent in respect of inter alia, academic training, career-oriented training and general training.

2.1.9 The accessibility of curricula for all

To overcome the problem of accessibility of curricula for all, additional ways of providing education, such as teletuition at the secondary level, should be investigated on a co-ordinated basis.

2.1.10 The problem of equality of educational results

Curriculating only takes place on the basis that it is aimed at equivalent provision of educational opportunities. The concept that curriculating should guarantee the result or effect of education is not feasible (in terms of the government's commission).

2.1.11 A structure within which equivalence in diversity in respect of the provision of curricula can be accomplished:
(Compare the following flow chart;)

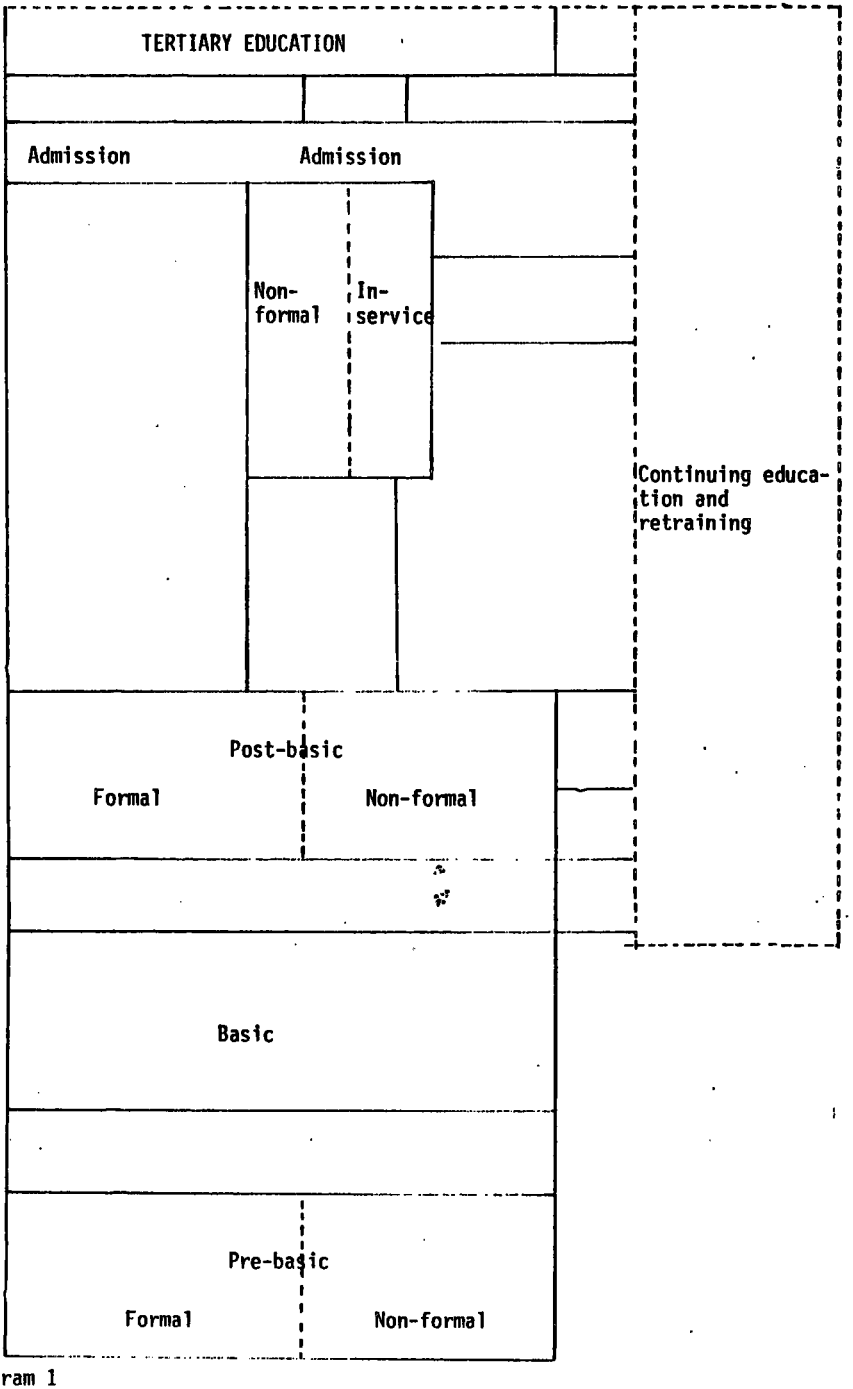

TERTIARY EDUCATION
Admission
Admission
Non-formal
In-service
Continuing education and retraining
Post-basic
Formal
Non-formal
Basic
Pre-basic
Formal
Non-formal

Diagram 1

2.1.12 Equivalent provision on the short, medium and long term

In the light of the foregoing problems it is obvious that equivalent provision for curricula cannot take place immediately. Thought will have to be given to a gradual implementation of equivalent provision for curricula. The following proposal is made in this regard:

2.1.12.1 Short term

- Make principle decisions for a suitable and effective curriculating procedure.
- Establish an infrastructure for the implementation of such a procedure.
- Start with implementation.
- Pay attention / give preference to training and in-service training.

2.1.12.2 Medium term

- Extend infrastructure for curriculum implementation (decentralisation).
- Promote equivalence in the provision of curricula.
- Extend training and in-service training inputs.

2.1.12.3 Long term

- Realize a unique system of educational provision within which all learners, irrespective of cultural identity, creed or ability can receive optimal education geared to integration in a career and/or vocation and the fulfilment of a unique individual life destination and a preparedness for self-development and service within the total community.

2.2 CO-ORDINATION OF CURRICULUM PRACTICE

2.2.1 What is understood by curriculum practice

Curriculum practice includes all curriculum activities and the execution of curriculum functions. These functions extend from decision-making on the macro-level, through organisational and planning functions on the meso-level to the functionalisation of the curriculum on the micro-level. Curriculum practice per definition also embraces evaluation practice as evaluation is one of the curriculum activities (functions) which must be executed in coherence with the other curriculum functions. Curriculum practice is therefore not limited to the design, evaluation and development of curricula. Co-ordination should consequently not only be brought about between this one type of curriculum practice and the other, but should take place all along the line, including co-ordination with industry.

2.2.2 The present curriculum practice

The existing curriculum practice is characterized by the fact that it is fragmentary. The fragmentation again, is determined by the many departments of education.

Chapter 1 sketches the present curriculum situation in the RSA under the headings Pre-primary Education, Primary Education, Secondary Education, and Vocational and Tertiary Education. The impression created when a person looks at the present curriculum practice is that curriculum functions are, to a large extent, undertaken traditionally rather than scientifically. In curriculum theory it is a known fact that if the deductionistic method (i.e. the designing of curricula on the strength of scientific in sights) is deficient the decisionistic functions (decision-making by the government on the strength of scientifically sound curriculum proposals) cannot make headway.

To a large extent the defective curriculum practice can be ascribed to the functions and activities of the JMB and the important role university admission plays in curriculating. Specific curriculum responsibilities have not been defined fully to this Board. Consequently many curriculum functions have not been performed in the technical sense, whereas in

other cases it was felt that the JMB influenced courses and syllabi not related to admission to university or to matriculation as such.

Co-ordination also took place through the CHE (and its subcommittees) and the CUP* (likewise).

The courses which are offered in commerce and industry have thus far not been included in the curriculum practice for schools, colleges and universities. The quality of the courses, the people who present them, their status, etc. are all matters which were to a large extent handled by the training institutions concerned.

2.2.3 Proposals regarding co-ordination

A national curriculum institute for co-ordination of curriculum practice with decentralization in the form of regional curriculum centres, merits consideration. The state can bring into being and co-ordinate a nationally co-ordinated curriculum practice through this national centre and regional centres. The whole matter of the drawing up (design) of curricula, the evaluation and development thereof as well as the dissemination can be accomplished by these centres. Liaison with commerce and industry as regards curriculum services needed by them can chiefly be accomplished by the regional centres.

For the schools common core syllabi can have their origin in the regional centres which are staffed so that each subject area is represented with participation by curriculum experts, universities and schools as well as commerce and the parent public.

Liaison with comprehensive regional institutes that provide training at the secondary level (compare Paragraph 2.1.11) can also take place through the regional curriculum centres.

A fuller exposition of the co-ordination possibilities within such a central centre with decentralization in the form of regional curriculum centres is further investigated and discussed in Chapter Seven.

* Committee of University Principals

2.3 CO-ORDINATION OF IN-SERVICE TRAINING AND EDUCATIONAL TECHNOLOGY

Educational technology can be used to a far greater extent in the in-service training of teachers. The application has two aspects. In the first instance programmes for the in-service training of teachers can be produced and marketed on a massive scale. Furthermore teachers can be taught how to use media, not only as instructional media but also as learning media (for the learner).

To co-ordinate the greater use of educational technology on a national level, special provision will have to be made for the selection, inspection, production and dissemination of media in a regional curriculum centre.

The provision of training packages for teacher training offers a challenge for the educational technology experts.

2.4 PRINCIPLES FOR CURRICULATING (INCLUDING BASIC CURRICULUM PRINCIPLES)

2.4.1 A comprehensive curriculum theory as summarized in a valid rationale

All curriculum development (design and evaluation) has as its aim the improvement of educational programmes. The improvement of educational programmes must be based on the curriculum theory and must be realized in practice as a continuous redesign.

The curriculum principles identified in literature and in curriculum practice in the Western world are

- situation analysis
- objectives and aims/goals
- learning content, learning experiences and learning opportunities
- evaluation.

The curriculum is constituted by the above-mentioned principles in functional coherence.

2.4.2 Curriculum development cannot be undertaken without regard to these constituents

To develop the instructional programmes it should always be endeavoured to improve or refine one or more of these principles. In practice this means that changes with regard to situation analysis will lead to a change in objectives which again requires other content or a modification of experience regarding the content by the learner. Breakthroughs in technology can for example open the possibility of modifying learning opportunities totally. Such a modification will result in changes all along the line. Mention is made of curriculum development to the extent that the changes which take place are an improvement of that specific curriculum.

2.4.3 A research basis for curriculum development

It is generally accepted that curriculum development should have a firm research basis. In fact there is a notion that curriculum development can only take place on the strength of research findings. There are a few practical problems in this respect, for example

- as far as the length and course of time is concerned;
- changed needs of society;
- breakthroughs in educational technology, et cetera.

2.4.4 A broad basis for decision-making

What is furthermore required for effective curriculum development is that the development should have the broadest basis possible. Widely co-ordinated participation by interested parties, especially on the "consumer level" (for example teachers and pupils) is necessary for an effective curriculum development practice.

2.4.5 A centralized practice

Curriculum development is best achieved in a centralized practice and preferably not only as a scientific exercise. Commissions from the authorities should include financing, access to fields of investigation and the dissemination of curriculum development data (and support of the innovation that accompanies it). In the case of industry and commerce in general curriculum development will be undertaken on a contact basis together with assignments which have been clearly defined.

It has to be assumed that developments in respect of knowledge, technology and human expectations are such that curriculum development should be built into the total educational planning as a continuous process. In this way it can be guaranteed that the instruction content and programmes will not become outdated and that the RSA will remain at the forefront with regard to the provision of education.

2.4.6 Statement of the problem

2.4.6.1 Curriculum development is as yet not viewed by everyone as an essential and continuing function.

2.4.6.2 A comprehensive curriculum theory has not yet been established.

2.4.6.3 No broad research basis for curriculum development exists. Such a basis will have to be developed (in co-operation inter alia with the universities).

2.4.6.4 There is no central curriculating institution with financing and authority as regards curriculum development and innovation.

2.5 THE DEMAND FOR EDUCATION IN SOCIETY AS A CURRICULUM PROBLEM

The demand for education is characterized by diversity and diversification. The problem identified is then how to provide for such diversification.

The investigation will have to take the following into consideration:

2.5.1 The close connection between pre-school and primary school education and the home and the particular societal context.

2.5.2 The necessity of general formative education up to the age of 13/14.

2.5.3 The possibility of continuing education at the secondary level, not only in an academic direction but in offering educational courses that cover the total field of educational needs at the secondary level.

2.5.4 The passage to university admission and university training for those who prefer it.

2.5.5 The passage to college and technikon training for those who prefer it.

2.5.6 The whole area of non-formal instruction in trade, commerce and industry for those who prefer it. Although considerable development has taken place during the past year or two, considerably more co-ordinated curriculating is necessary in this respect. It should also be possible to integrate non-formal education in a centralized and decentralized structure for curriculum design, evaluation and development.

2.6 DIFFERENTIATION (GENERAL FORMATIVE, CAREER-DIRECTED AND CAREER EDUCATION) AS A CURRICULUM PROBLEM

Within the broadly defined general curricula, provision should be made for differentiated programmes. The differentiation should be geared to the optimalization of educational opportunities and should take into consideration educational merit, the requirements and needs of individual learners as well as the requirements of society.

In a multicultural society differentation cannot be based on race, colour, creed or sex (see Principles for the Provision of Education 1). It should,

beyond these lines, take into consideration the specific learning needs of individual learners from all cultures as well as the needs of the country.

Although differentiation is geared to the optimalization of learning for sundry learners, differentiation should in effect bring about bonds for unity within the body politic.

Differentiation is necessary when offering different courses of education; but it also helps to identify levels which learners will and can achieve in a course of study and to provide curricula specifically with that in mind.

Differentiated education can best be introduced and maintained in a co-ordinated national structure.

Differentiation should be refined in such a way that the courses which are described as non-academic courses gain status as a result of the effectiveness of the career-directed curricula which are introduced.

Differentiated education can only function in practice if provision is also made in the system for differentiated evaluation and measurement.

Differentiation should never be established on the basis of terminal courses (courses that do not lead any further).

Co-ordination of differentiation for adults who are in a profession is just as necessary as differentiation at school level. This co-ordination can best take place through a regional curriculum centre.

Summary

The problem of differentiation in the provision of curricula covers a variety of problem areas. The success of any educational system in a multicultural set-up such as in the RSA depends to a great extent on the way in which the refining of and aim with differentiation on the different levels is viewed.

The problem of differentiation should also be investigated in the light of an extensive guidance system through which guidance is given to learners regarding the choice of courses and careers in the light of their own achievement.

2.7 ENTRANCE REQUIREMENTS FOR TYPES OF EDUCATION

The problem of admission to participation in specific courses should immediately be investigated as regards the following aspects:

2.7.1 University entrance

It appears that the possibility of a thirteenth school year should be investigated specifically with a view to university entrance in a changed educational dispensation. Such an arrangement will limit the function of the JMB (Joint Matriculation Board) to these curricula and all other courses can be designed without regard to university entrance.

If justified the thirteenth school year should be properly described and curricula and syllabi should be planned to satisfy the requirements for entrance to university. The thirteenth school year could be coupled to ordinary secondary schools as well as to possible secondary education provided on the non-formal level (compare Par. 2.1.11).

2.7.2 Entrance to other levels of education

In this respect the possibility of harmonizing the requirements for compulsory education and entrance to all other possible courses will have to be determined. Compulsory education itself will have to be lowered a good deal to be functional for the whole population. The emphasis in all subsequent training should shift from training before acceptance to an occupation, apprenticeship or course to training during the career or further study.

2.7.3 Entrance requirements for non-formal education

The arrangement that all training should in one way or another be registered at a central point (for example at a curriculum centre) should be investi-

gated. In this way credits can be given for each course offered in non-formal education. Persons who complete different courses can in this manner build up a certain number of course credits and thereby gain entrance to further courses or can apply for a comparable certificate.

If such a principle should be accepted, it would mean that a breakthrough could be made in the RSA with the recognition of non-formal education as being comparable to the standards of formal education. Evaluation will have to be centralized to such and extent that criteria regarding the comparability of courses can be worked out.

2.8 EVALUATION, EXAMINATIONS AND CERTIFICATION AS CURRICULUM PROBLEMS

2.8.1 A central evaluation body

Evaluation is an intrinsic part of curriculating although in practice it is often treated and dealt with as a separate educational function. The divergent evaluation functions necessitate the idea of a central evaluation institution that can co-ordinate functions.

2.8.2 Evaluation and certification

Evaluation and certification logically go hand in hand. Thus the body entrusted with all evaluation on the national level should also be responsible for a system of nationally co-ordinated certification up to the secondary level. The allocation of credits to specific courses should be worked out in co-operation with the curriculum institution so that a compromise can be made between achievement in non-formal instruction and training and the education standards in the formal set-up.

The JMB will control evaluation and certification for university entrance examinations.

The tertiary institutions stipulate their own conditions for evaluation and certification. Co-ordination in this case takes place through the CUP.

2.8.3 Examinations

The obvious arrangement of handling external examinations on the national level should be investigated. Education of equal quality is out of the question if examinations of differing quality are sat for.

2.8.3.1 The university entrance examination

Control over the examination for university admission should be centralized. The existing practice that this examination is valid as norm for the curricula of all secondary courses (formal and non-formal) should be investigated in view of the fact that education as such is influenced by this examination.

2.8.3.2 School leaving examinations

Seen in curriculum perspective consideration should be given to the organizing of school leaving examinations on a national level as optional possibilities in order to establish a certified entrance to career and career-directed education in the formal and non-formal fields. This implies a completed curriculum cycle for each of such school phases, for example at the end of the senior primary, junior secondary and senior secondary school phases (formal education). In the non-formal field credits of equivalent merit can be considered for the same purpose.

2.8.3.3 Normalization of examination marks

The common policy of normalising marks, i.e. subjecting examination results to a norm and of adapting marks to suit the specific norm should be revised. Education of equal quality is out of the question if the different departments which at present handle marks adapt those marks to suit their own norms.

If the practice of norm-directed evaluation is continued it will most probably be necessary to standardize such examinations and evaluation norms nationally in order to guarantee equal standards and quality in the provision of education on the formal and non-formal levels. In con-

sequence the employer will be provided with an assurance regarding certificates which should prevent possible discrimination concerning the validity of such certificates.

2.9 MANPOWER NEEDS AND TRAINING FROM A CURRICULUM PERSPECTIVE

For meaningful curriculating it is necessary to ascertain what the minimum requirements for basic instruction (literacy, numeracy) should be and how basic instruction can be provided. In continuation of this, provision should be made for primary, secondary and tertiary education and for all the requirements of non-formal education, demanded by commerce, industry and trade.

2.9.1 Basic education

Basic education should not be confused with the concept of basis education in use in some European countries (the Netherlands). Basic education is a term indicating the minimum education necessary for any person (child or adult) who wishes to lay claim to literacy.

Adults who wish to make use of the opportunity of receiving basic education should be afforded that opportunity. Correspondence courses could be used on a large scale. The design and provision of media packages could be an important focal point for the Work Committee: Educational technology. In practice provision will have to be made for adult education in the eventual curriculum procedures. The attainment of a stage where everyone in the country has received basic education should be regarded as a high priority on the short term.

From a curriculating perspective the requirements for the curriculum should be planned as an answer to the fundamental questions: What is basic education? How can provision be made for basic education?

2.9.2 Compulsory education and free education

On the strength of the current curriculum research it appears that the concepts "compulsory education" and "free education" should not be treated as identical concepts.

2.9.3 Continuing training

In its report (09.02.81, Par. 27) the Work Committee: Demography, education and manpower points out that the lowest limit for participation in the economy is 15 years. Participation at the age of 15 can hardly be on a high level. Consequently curricula should be designed and put into practice in consultation with trade and industry and should result in a strong flow-through to high-level manpower.

2.9.4 Teacher training and in-service training

In the short term an enormous input must be made regarding teacher training (including in-service training). The problem in this respect is that teachers who teach in Black, Coloured and Indian schools have, for the greater part, not received the minimum training.

Owing to the numbers and the circumstances in which they find themselves (are already in the profession, teach on a full-time basis, have family commitments) the curriculum specialists and the media experts will have to deliberate to design and produce teacher training packages on a large scale for use in the training (retraining, in-service training) of teachers.

2.9.5 Functional curricula

The great demand for persons who are trained in Mathematics, Physics, Chemistry, Mechanics, Electronics, etc. or have anything from an elementary to an advanced knowledge of these subjects, necessitates that the current high drop-out rate in these subjects should be considered afresh. From a curriculum perspective it would appear that attention should be paid to curriculating for Functional Mathematics, Physics, Chemistry, etc. Curricula geared to specific learners for a specific purpose should be designed in preference to resorting to poor curriculum practice, for example the "watering down" of curricula that were compiled for another purpose.

The Work Committee: Teaching of the natural sciences , mathematics and technical subjects most probably paid attention to this matter.

CHAPTER 3

DETERMINANTS FOR CURRICULATING

3.1 A COMPREHENSIVE CURRICULUM THEORY

In the absence of a comprehensive theory for curriculum development (design, evaluation) curriculating will tend to be dominated by considerations regarding subject content, child-centeredness, demands made by society, didactic considerations, etc. The development of an acceptable curriculum theory is essential for justifiable curriculating because in such a theory the various determinants for curriculating are described and related.

Principles for curriculating are also laid down. The functional interdependence of these principles, namely situation analysis, objectives, learning experience, learning content and learning opportunities and evaluation form an important basis for all curriculating (e.g. curriculum design). The study of determinants for curriculating must be viewed against the background of a comprehensive curriculum theory. Some determinants will subsequently be discussed.

3.2 MANPOWER NEEDS AS DETERMINANT FOR CURRICULATING

3.2.1 A dual problem

When manpower and curriculating are viewed the first consideration is that of trained curriculum personnel. Universities quite recently began paying attention to the inclusion of curriculum design (curriculum science) in their training programmes. Thus far these courses form part of the teacher training programmes and the training is geared to curriculum studies for the school situation (formal instruction). In the case of the extended fields of non-formal instruction curriculum studies of any nature are to a great extent absent. The first matter that should receive attention is the training of curriculum specialists who could deal with basic curriculum design in the various ramifications of education and formal and non-formal training. Curriculum functions are at present performed by persons who have had little or no training in curriculum design and development.

The second matter that should receive attention, is to ensure that every teacher and anyone who performs a training function is seen as a curriculum functionary and that he will consequently be trained in curriculum theory and practice. Where core syllabi or (even better) core curricula are used, the teacher or person who instructs, performs a re-curriculating function. Although he therefore does not make a first selection and orderly arrangement of learning content and learning experience, his is a selection and arrangement for a specific group of learners in a specific situation. In order to fulfil his curriculum function properly he should re-curriculate (work out a curriculum unit on the basis of information in the core curriculum). Only persons trained in curriculum theory and practice will be able to perform this important curriculum function. A strong component of curriculum theory and practice should be built into B.Ed. courses for persons who have already gained practical experience in this regard.

3.2.2 Geared to manpower development

Curriculating should also be geared to the development of manpower for the varied requirements of society. In order to perform this function curriculating should be directed towards the following focal points and adequate curricula should be developed for each of these needs:

.	pre-school education	Pre-basic education programmes
.	school commencement	Basic education
.	basic education for all	
.	primary school education	
.	secondary school education on a differentiated basis in school context	Post-basic education
.	training courses according to need in trade, commerce and industry	
.	a compendium of courses at the formal and non-formal levels which are identified according to needs and are offered out of school	

.	a university entrance course via the secondary school and via the "College for Secondary Education" (see Chapter 1)	Tertiary education
.	curriculum services (consultation, aid) to institutions on the tertiary level who should request such service	
.	curriculum aid to anyone who would like to follow, design or implement a career directed or life-improvement course	Continuing education

The whole spectrum of curriculum services forms a determinant for curriculating because each curriculum is determined by its destination as well as by the destination of those who follow it. Up to the present moment curriculating has not been provided to all sectors of society on a co-ordinated basis and a structure should be designed whereby curriculating can be made possible on the basis of equal provision for all sectors. In this manner curriculating can make the first possible contribution towards meeting manpower needs.

3.3 THE DEMAND OF EDUCATION IN SOCIETY

Curriculating is very closely influenced by the demand for education in society. This demand is one for education as such and above all for the minimum education necessary for literacy and numeracy for significant participation in society.

The demand for education also comprises a demand for the type of education that is provided. The traditional view that everyone should traverse an "elite" type of education should be substituted by acceptance of the fact that society has a need for a great variety of trained manpower. Obviously the demand for technically trained persons will be the greatest in a technological society. Curricular provision should be geared to meet the real demand for education in society and not the artificial demand. If curriculating is applied wrongly in this respect it may lead to provision for needs that do not exist. Compare in this respect the attached study concerning differentiation "Principles of Differentiation in Curriculum Development" Paragraph 4.2.5, which indicates that all secondary school courses are apparently geared to university entrance, while the demand is actually to gear a substantially smaller part of secondary school instruc-

tion to university entrance while the other course should be a course in its own right which provides for its own needs. These 'distinctive needs' have a bearing on the great numbers who wish to enter commerce or industry after leaving school.

The uncontrolled passage to the acquisition of degrees for which there is no demand, should be reconsidered. To train someone to acquire a degree is an expensive undertaking. If it should then become clear that the acquired degree is not in demand, the whole exercise boils down to a waste of money and manpower. Institutions such as the HSRC (IMR) will continuously have to pay attention to the determining of needs in this respect on the short, medium and long term.

In the case of teacher training a different tendency is to be observed which should be investigated, namely the practice of training teachers for the numbers (and subjects) which would be necessary IN SCHOOLS at a given time. The demand for teachers or persons trained in education extends much further than the calculable demand in schools. Training takes place on an increasingly greater scale outside schools. For a great part teachers are drawn for those training posts, but because the calculation is not included in the allocation of quotas for colleges of education and universities there is a continuous shortage of trained teachers.

Two things should happen:

(i) The educational needs of the entire society should be determined (and not only the demands from schools),

(ii) More teachers should be trained than indicated by the immediately determinable demand. An oversupply would heighten competition in the profession. Teachers who do not find posts in schools will, as a result of their training be much sought after in the private sector or in private schools.

3.4 THE LEARNER AND THE CURRICULUM

The uniqueness of the learner as a person who gives meaning to reality is generally accepted. The cultural contributions to a specific situation

is the focal point for the curriculum writer.

The learner's readiness to master specific educational (i.e. norm determined) content in a specific manner should be taken into consideration in the case of each curriculum. When curriculating for a specific learner the problem centres around the question as to the significance of the content with which the learner will have to cope in his situation. The learner determines the course of matters as far as curriculum provision is concerned to the extent that not any curriculum content (or learning experience) is suitable for any learner. Learning cannot take place as it should if content and learning experiences are not suitable to the learner. Curriculum experts will have to be aware of the ways in which a learner styles his life at the different levels of his development.

For the curriculator it is also important to realize that learning is a function of the learner's maturation. The content and learning experiences impressed upon the learner eventually also determine the quality of the person's maturity. Therefore a country like Taiwan which greatly emphasises national survival also adds a strong component of self-preservation to all their content.

The three considerations that apply to curriculating regarding the learner are

longitudinal or phaseological requirements,

differentiation requirements and

cultural requirements.

Curriculating will, as far as the phaseological requirement is concerned, take into consideration the changing ways in which a learner takes part in reality (content). As a whole the curriculum will over the years change from a playful and predominantly affective-accentuated approach into a more formal arrangement which is increasingly geared to cognitive knowledge and skills.

The differentiated presentation of content is fully taken care of elsewhere. The fact of differentiated curricula (as for example opposed to main

streaming) should be accepted as a basic education principle for the RSA (compare Principles for the Provision of Education in the RSA Principle 2).

The whole question of the cultural demands made upon the curriculum is entered into somewhat more fully. Curriculating is concerned with the transfer of culture. In a country such as the RSA the divergent cultural differences are a factor that must be taken into consideration.

The actualization of learning possibilities is to a great extent determined by the cultural world, i.e. by the meaning-world within which the learner must confer meaning. The initiative to learn resides in the child, but the quality of parental appeal is generally such that the answer of the child from a poor environment to that appeal does not enable him to interpret meaning on such a level that he can significantly take part in the meaningful content of the curriculum. The Work Committee: Education for children with special educational needs will most probably attend to this matter. From a curriculum perspective it has to be emphasized that not only cultural differences but also sociological factors occasion the planning of differentiated examination papers.

To a great extent the development of thought and concepts is interwoven with the development of language. Learners from an environment that is culturally poor are usually poor in language, poor in concepts and poor in thought. If the environment from which the learner comes is "rich" in cultural goods, he is usually able to cope with the cultural content that is included in the curriculum as instruction and learning content. It is possible, even easy for him to interpret the content and to incorporate it in his concept forming and thought patterns.

Summary regarding the learner

Taken as a whole it is essential that the curriculum writer should consider the learner in all facets of his curriculating action. He will have to avail himself of psychological, sosiological and pedagogical information which he himself will have to justify pedagogically and accommodate curriculum-wise. Central curriculators can however only generally satisfy the needs and requirements of the individual learner because of the large numbers of their target group. Even in the case of a decentralized

curriculum set-up the target group is still a general group. It is only in planning for a specific group of learners (class groups, micro-level) that the purpose of the curriculum and the significance of the content can really be relevant as far as the learner is concerned.

3.5 THE REQUIREMENTS OF THE SUBJECT CONTENT AS DETERMINANT

One of the central functions of the curriculum writer is to determine the nature and extent of the learning content for each curriculum. Insofar as instruction takes place subject-wise this learning content is also subject content. Obviously the selection of content will have to be done on the basis of criteria. The criteria should be cleared by all interested parties as the criteria which are used to select learning content at the same time reflect the values (norms) of the people who set them. It must be realized that there are forces moving (interests backing the curriculum) in whose interest it is that certain content be taken up in the curriculum and that certain content be left out.

3.5.1 Cultural preservation and extension

3.5.2 Material quality of life

3.5.3 Interhuman relations

3.5.4 Total quality of life

3.5.5 Cultural changes

3.5.6 National ties (citizenship)

3.5.7 Religion

These considerations form the spectrum within which the content should be selected and the emphasis which the content should get.

3.6 PRINCIPLES FOR DETERMINING CURRICULUM CONTENT

3.6.1 A structural function

Content which aids the learner in giving structure to things.

3.6.2 A content-giving function

Learning content should contribute to the learner's increasing experience of adult life.

3.6.3 A selective function

The content (and learning experiences) should enable learners to master selected areas of reality adequately.

3.6.4 An evaluating function

The learner should increasingly be more able to act evaluatively and assessively and the content should be chosen to facilitate this function.

3.6.5 The structure for curriculating

The selection and orderly arrangement of content is dependent on the model for curriculating decided on for the country. Selection and arrangement of learning content is also subject to the structure (system) of education and training as such. If the first four years are to be compulsory for all and geared to a basic education, curriculum design will have to be done differently, unlike when those first four years are meant only for some learners and they are merely an introduction to other forms of education.

3.7 LOGISTIC PROVISION AS A DETERMINANT FOR A CURRICULUM

Another determinant for curriculating is the logistic provision made for it. This provision affects various aspects of the curriculum (in a broader sense) such as the following:

- the provision made for curriculum design
- provision for curriculum evaluation
- an infra-structure for curriculum development.

Curriculating always comprises the making available of learning opportunities (content, learning experiences) to someone (learners) who must complete the curriculum under certain circumstances. The making available of class space, books (libraries) media of differing kinds and sophistication has a direct influence on curriculating as such.

Example: If every school had a language laboratory at its disposal a curriculum which is largely programmatic in structure could be designed. It does, however, not make sense to build this kind of linear instruction into a curriculum if the schools offer instruction in ways other than by means of a language laboratory (as is the case).

Taken as a whole, curriculating cannot be undertaken before it has been determined what financial provision has been made for the different curriculating and educational actions.

CHAPTER 4

OBJECTIVES OF CURRICULATING

4.1 CURRICULUM OBJECTIVES

To set an objective is to determine a point in which direction can be moved. In the case of curriculum objectives the whole field of learning experiences and learning opportunities that are offered to a learner is encompassed in an educational programme as the ideals which should be pursued. Curriculum objectives justify (mostly implicitly) matters such as the curriculators' conception of man (conception of the child), their ideas regarding knowledge and the influence thereof, scientific view, educational philosophy and their view of life and the world together with their view of society.

The aim is to confront the learner with valuable content and norms in order to enable him to work and live in a society as a free and educated person and to make a contribution toward the general welfare. Universal objectives are not inevitably and explicitly mentioned, but are always implicitly present in each curriculum.

4.1.1 Ultimate objectives

In leading the learner (child and adult) through a series of learning experiences (planned learning experiences) the intention is a movement closer to the ultimate objective, namely the establishment of a life and world view. The problem regarding this concept of an ultimate objective is the diversity of the South African society and the dissimilarity regarding views on life and world. One should however keep in mind that it is the values of a community that are eventually built into those ultimate objectives and are the product (effect/result) of the education that is offered. People are not encouraged by things which are worthless. It will therefore require extreme deliberation, dialogue, participation and co-ordination to draw up a core curriculum which is acceptable to everyone. It appears that even in the case of core curricula provision will have to be made for alternatives or alternative interpretations, as education cannot be thought of as being a "neutral" activity.

4.1.2 Long-term objectives

In curriculating it is always desirable to justify one's self as to the long-term effect of the instruction and to anticipate the triad knowledge, skill and attitude. These results (anticipated results) are set with the expectation that the fully worked through experience of reality will in the long-term equip the learner to satisfy the requirements of reality (the requirements set by society) within the sphere of his capabilities.

The long-term objectives envisage an expansion (deepening) of the learner's understanding. Problems can originate when these objectives result in a discontinuity in the home or even the cultural environment. A fundamental problem underlying the conception and formulation of these long-term objectives is their ability to get people in a fair society to reconcile the interaction between their particular culture and cultural values and the general culture and values of the broader society within a dynamic interaction. It is evident that the freedom of justified criticism by society should also be built into the curriculum.

4.1.3 Medium-term objectives

In the medium-term the ideals and long-term objectives acquire a subject content and phase emphasis. Medium-term objectives are interwoven with formative and summative evaluation which is (can be) concluded within a completed period of schooling. The objectives for pre-school education, school commencement, basic education, primary school education and secondary school education are examples of an account of what is to be achieved during such a "period". The function of objectives is to give direction to such a "phase", but also to let it run according to the purpose set. A clear exposition of the knowledge (concepts), skills and attitudes which should be attained should be indicated in the medium-term objectives.

In particular an analysis should be made of the subjects (subject curricula) which constitute the total curriculum. The selection as well as the orderly arrangement of content should be reconcilable with the medium-term objectives. The evaluation (evaluation procedures) should follow these medium-term objectives. A course of four years of basic education cannot be

tested in terms of scholastic achievement coupled with great claims to memory and retention. On the other hand it should also not just be measured according to the impact of socialization. The criteria that are to be satisfied should be worked out anew in concord with the aim (purpose) of the course.

4.2 LEARNING OBJECTIVES

4.2.1 Concept description

While curriculum objectives usually embody an educational and a teaching philosophy, the point at issue in the case of learning objectives is the envisaged and written learning effect in the short term and in terms of learning achievement. The learning aim points to the learner and is usually intended to inspire the learner to the attainment of a specific achievement of a specific nature.

4.2.2 Learning objectives in terms of the triad structure of knowing, being able and being.

Learning objectives are planned and destined to attain reasonably concrete and even identifiable aims over a short-term. There is a tendency to set, pursue and evaluate predominantly cognitive aims. The fact that cognitive achievement is supported by skill and that which the learner knows and can do, influences his whole attitude (relation) toward things and people, is not always accounted for in the short-term objectives. It is therefore imperative that curriculating, when it comes to the short-term aims (learning objectives), will take into account a justification as regards knowledge, skills and attitudes. If learning objectives are explicitly defined with regard to the questions:

- what should the learner know?
- what should he be able to do (with the knowledge) and
- what attitudes should be awakened in him?

greater efficiency can be achieved in curriculating and in practice for which or within which is curriculated.

4.2.3 Differentiation

Learning objectives (aims) are short-term and are structured (formulated) in terms of specific knowledge or skills. Within the greater framework of differentiated presentation the learning objectives should show understanding for learners in general as well as for particular/special learners. The participation of learners regarding that which is determined for them as learning objectives should not be regarded as being outrageous. In practice the learner will not always be able to say which learning objectives are the most suitable (he has no general view of the total field), but in many instances he would be able to give an indication of that which he experiences as being relevant. In this respect the following guidelines are of importance:

- The objectives (aims) should be aimed at the individual learner and should appeal to him.
- The objectives should describe learning outcomes that must be realized by the individual learner.
- The learning objectives should link up with the medium- and long-term aims.
- The objectives (aims) should make allowance for realities and problems (constraints).
- The objectives should be clearly defined in terms of knowledge, skills and attitudes.
- From a curriculum point of view attention should be given to learning objectives for all and learning objectives for particular learners.
- The learning objectives (aims) should cover the total extent of adulthood, not necessarily in each unit of instruction, but in the learning objectives as a whole.

4.2.4 An inventory of learning objectives

In order to curriculate for an aggregate of learning experiences for the primary school, the secondary school and even tertiary education, curri-

culating requires that an inventory of learning objectives be drawn up. An investigation was made of a possible classification scheme for the conception of learning objectives on the macro-level which could also work on the meso and micro-levels, if it is assumed that the elements of the matrix are acceptable. At present it seems that the idea of such a matrix should be investigated and that the elements should be tested in some way for acceptability, inter alia by different schools of thought, cultures and population groups.

4.2.5 Educational decision-making and participation

The participation of the person who teaches should be built into the total curriculum strategy. This participation should figure in the conception of learning objectives. It must however be realized that the teachers' participation can only occur through representation. All other persons will meet with learning objectives that have been drafted and formulated by others for them and their learners.

A sound curriculum practice would however make provision for learning objectives which simultaneously give a proper indication and directive as to what the learner should achieve through specific instruction and on the other hand allow the teacher or instructor to make significant decisions regarding learning objectives. It is a known fact that the lesser trained (and less enthusiastic) teacher prefers a more detailed curriculum (including learning objectives) than the better trained and more enthusiastic one. Detailed curricula (with fully defined learning objectives) tend to result in education that is constrained and to promote work according to a fixed pattern. A balance is not easily struck. Viable instruction on the other hand requires that the curriculator does enough to explain the learning objectives and leaves enough to the teacher to be able to make significant decisions regarding attainable learning objectives for his particular circumstances.

CHAPTER 5

DIFFERENTIATION IN PRACTICE

5.1 INTRODUCTION

The provision of education in developed society at the end of the twentieth centry has become enormously complex with curriculum content steadily increasing as the demands of society and the store of knowledge and aspirations of individuals increase. The provision of education in developing society with the problems of the numbers to be educated, inadequacy of finance, inadequately trained teachers, and lack of facilities together with increasingly strident popular demand is an explosive issue. Where both developed and developing societies are found within the national boundaries of a complex plural society such as in the RSA, the problems and pressures become more acute. In terms of curriculum content the problems of differentiation are always present, but the crux of the matter is to provide, as the first priority, compensatory programmes that will provide, within a time scale far shorter perhaps than is professionally desirable, a foundation upon which a new curriculum that offers equality of educational provision for all can be built.

5.2 DEFINITIONS

5.2.1 Differentiation

An educational system that is designed to transmit knowledge, impart competencies and establish attitudes, almost by necessity creates differences. It is inherent in the recognition of individual differences that there will be differences in curriculum content to provide for different abilities and objectives.

5.2.2 Principles of differentiation

Fundamental statements relating to curriculum differentiation that are formulated in conformity with the basic educational principles and aims of society are not to be confused with organisational practice or admini-

strative detail. They are regarded as truths that apply to the provision of education as a whole.

5.3 PRINCIPLES AND CONSIDERATIONS BASIC TO DIFFERENTIATION

The following principles have been formulated after an investigation which has included the consultation of source material, as well as lengthy discussion on curricular issues.

5.3.1 A curriculum has to satisfy two seemingly contrary requirements. It has to reflect the broad aims of education valid for all learners whatever their capacities and whatever institutions they attend. It has also to allow for the differences in the abilities and other characteristics of learners, even of the same age. Thus within broadly defined common programmes individually differentiated programmes have to be designed.

The above applies to all stages of general education and particularly to the secondary level where learners are exposed to explanatory and orientation studies prior to the differentiation which is related to intellectual capacity and career choice. Even at tertiary level differentiation provides for learning content of general interest e.g. prerequisite courses for specific curricula, and general and specialist courses within more specialised training.

5.3.2 Differentiation applied to the curriculum implies selection in terms of educational merit, as well as in the nature and context of courses within the curriculum to meet the needs of the individual in personal growth, and in preparation for his membership of society.

A curriculum must at all levels be designed to provide for the normal learner at a particular level a satisfying educational experience appropriate to his needs. It must also seek to identify and encourage intellectual and

other talents. Selection on merit for entry to particular phases of general education, e.g. secondary, has proved to be unsatisfactory, especially in relation to socially disadvantaged learners. Selection on merit is a common practice at tertiary levels and particularly within universities. In addition to provision for the normal learner, differentiation within the curriculum must be provided for all in order to take account of learners with special needs.

5.3.3 In a multicultural or plural society, cultural differences exist. While the common curriculum content encourages an understanding and appreciation of such cultural difference, curricular differentiation should not be based on differences of race, colour, creed or sex.

5.3.4 Differentiation within the curriculum should acknowledge the diversity of life within the State, while at the same time stressing features which would promote the ideal of a common South Africanism.

Education must be recognised and exploited as an agency which seeks to promote understanding and harmony within a society. It should not seek to encourage difference and division. One of its most effective tools in the realisation of this principle is the curriculum, which, while recognising difference, must actively endeavour to promote through mutual understanding the appreciation of a common heritage.

5.3.5 The problem of equalising curriculum content in segregated systems of education where the quality of instruction and the general provision of education have varied dramatically makes it necessary for compensatory education to be provided on a differentiated basis at all levels in the preparation for a new uniform system of equal educational provision for all.

It must be clearly recognised that in terms of the curriculum the same quality of educational provision cannot be provided

immediately for various systems of education operating in the RSA. Common curricula and examinations are one thing; the provision of schools, facilities and, of greatest significance, the provision of teachers with standard qualifications, is another. The attainment of common curricular levels upon which equal educational provision can be based is a third.

Opinion on this issue varied from the need for gradualism to the advocacy of immediacy in the solution of the problem. This latter view was strongly expressed in the area of operation of teachers' courses in colleges of education.

At the level of technical and vocational education, it was recommended that some form of compensatory education should be introduced to raise the present standards in languages, mathematics and science of Black and Coloured applicants for apprenticeship.

5.3.6 There is no justification for large-scale differentials in per capita expenditure on education based upon population groups. Such differentials have an inevitable effect upon curriculum content and therefore upon the quality of educational provision. This in turn leads to curriculum differentiation based on unacceptable criteria.

Differences in per capita expenditure on education in different systems of education result in differences of levels of teaching, differences in pupil teacher ratios, and differences in curriculum content. To implement equality of educational provision, it is necessary that as a priority issue steps be taken to equalise the educational opportunity afforded to all learners in the RSA. The American experience in the last two decades is significant for all societies practising differentiation of this sort.

5.3.7 Curriculum differentiation at the level of initial formal education should be minimal, and the demands made upon pupils

in respect of curriculum content (e.g. the number of languages to be studied) should be the same.

Basic education and primary education in the earlier stages is, in the main, concerned with the acquisition of skills as well as social adjustment. It is only later that exploratory studies are undertaken leading to increasing curricular differentiation in the secondary school.

It is to be noted that where basic education is offered to an adult as part of the provision of compensatory education, it is essential that different methods of approach from that in normal primary education be introduced.

5.3.8 Conditions of entry to education at all levels should be common to all irrespective of race, colour, creed or sex.

Selection procedures for entrance to tertiary level studies should not be differentiated on the grounds of population grouping. All certificates based upon acceptable academic standards should enjoy parity of esteem and acceptance for university study.

It is emphasised that greater provision must urgently be made available to Blacks in urban areas, where university facilities already exist. These universities should be seen as institutions which provide for all students within their area.

5.3.9 Opportunities must be afforded to those who have not experienced formal education to avail themselves through part-time, full-time, or correspondence, continuing or life-long education, to improve their educational and/or vocational competence and skills.

During and beyond the time which is necessary to establish a new system of education based on the principle of equality of educational provision, it will be necessary to offer a full range of differentiated adult education to those who

have experienced little or no formal education. This differentiated compensatory education will have to range from basic literacy through to the end of the formal courses, will have to link with post-school education, and will therefore require to be co-ordinated. Demands for such education and particular courses within it will vary from region to region making regional co-ordination desirable. It is foreseen that both State institutions and private agencies must be involved in providing this service.

5.3.10 The present trend towards overwhelming academic orientation of all secondary education must be critically assessed in the light of the needs of the learner and of society.

Education, particularly at the secondary level, in most countries with a Western orientation, has tended to be academic in nature, reflecting the history of the development of secondary education largely on elitist lines up to the Second World War. South Africa has been a good example of this. In a State in which both developed and developing systems operate side by side, the natural desire of those who have envied the more sophisticated system, is for extension of this system to all groups.

In curriculum terms it is necessary for representatives of all concerned to reassess the aims and objectives of education on a common basis, to give weight to the effect and needs of cultural diversity in a plural society, to take cognisance of the development of individual potential and to bear in mind the provision of well-educated and skilled manpower. This will involve the setting in perspective of the essential components of new differentiated curricula, rather than the mere acceptance of a traditionally-conceived academic curriculum.

This is recognised as a complex task which requires professional educational expertise of a high level.

5.3.11 In the secondary level curriculum, designed to include a substantial compulsory element, there is need for differentiation and choice. In the compulsory part there is need within broad subject fields to differentiate levels of work, content and emphasis. The essential task is to explore the means of differentiation of content, while keeping some parts of the subject accessible to all.

5.3.12 The optional section of the secondary curriculum can be utilised to provide for a variety of differing needs, e.g., to take up new disciplines, to encounter new knowledge, to extend the compulsory studies, to provide for some specialization, or to take account of learning difficulties. Some vocational interests may be introduced in the form of optional subjects.

Knowledge increases with frightening rapidity, and there is great uncertainty about the kind of knowledge, the nature of personal adjustment, and the development of community and world attitudes by modern youth in a complex and diverse society such as South Africa. As stressed above in 5.3.10 it is necessary for the curriculum and for differentiation within it, to be kept under constant review by a body of professionals representative of all groups within the community who are experts in the field of curriculum development. The results of such review should be freely available to all concerned with education at both national and regional levels.

5.3.13 The assessment procedures by which pupils are differentiated for admission to tertiary education must have common standards for all, and should provide a reasonable predictor of success in studies at this level.

5.3.14 The provision of professional guidance services is an essential feature in the promotion of educationally sound differentiation in the curriculum.

At the present time all educational systems, some to a greater extent than others, make provision for guidance services. It is clear, however, that in a number of instances the provision is restricted very much to vocational guidance. While such a service is undeniably necessary, a fully developed system of differentiated education cannot be successful unless it is accompanied by a well-developed system of academic guidance implemented by skilled staff. This is an area in which there will have to be considerable staff training and development, particularly as the extent of curricular differentiation and optional subject choice increases.

At the same time it is essential that the vocational aspect of guidance should not be neglected as employment opportunities for all population groups widen and become more diversified.

5.3.15 The methods by which selection for differentiated curricula are made should be based on principles which are common to all learners.

5.3.16 Admission levels to courses of teacher training and standards of teacher training in terms of diplomas awarded should be based on common professionally determined criteria.

It is axiomatic that if education of comparable quality is to be offered to all learners in a state, then the standards laid down for the education of all teachers should have a common basis. This must apply particularly to entrance requirements and the duration of courses of training for teaching at different levels. It is realised that where different levels have applied in different systems of education based on population grouping, it will be necessary to adopt common standards for all. This does not mean a rigid insistence on uniform curricula for teacher training for such would stifle initiative not only among teacher educators, but in turn among their products.

It is necessary that professionally-determined criteria help in the evaluation of teachers' qualifications for the purposes of employment. Great care must be taken, however, to ensure that the narrow interpretation of criteria does not exercise an adverse influence on the curricula of teachers' courses or on the recognition of suitability and high standards of teacher qualification among recruits from systems outside the RSA.

5.3.17 Differentiation within the curriculum should not lead at any level to learners being directed into terminal courses.

Education must be recognised as a lifelong and continuing process. Courses within the curriculum must never be seen as being terminal. The curriculum must be so designed that, having completed basic education, the learner should be able to proceed directly, or after a break in employment, to pick up and extend his knowledge, understanding and skills in order to promote not only his own personal well-being, but also his usefulness as a member of the community.

5.3.18 Curricular services based on provision for different population groups results in the uneconomic use of scarce resources.

5.3.19 A common policy for the curriculum does not mean a prescription for uniformity. Enabling all learners to achieve a comparable education is a more subtle and skilled task than taking them all through identical syllabuses or teaching them all by the same method.

This statement must be axiomatic to all who have experience of the teaching process. It is necessary to take account of a wide range of differences between individual pupils. It is necessary also in curriculum terms to differentiate between those who have advantages in socio-economic terms, as well as in long exposure to well-developed educational systems,

as opposed to those who are socio-economically disadvantaged and who have experienced inadequate teaching in a poorly developed system of education.

5.3.20 A common curriculum designed to enable all learners to achieve a standard of education appropriate to their abilities and interests demands flexibility in its interpretation and therefore must allow for differentiation within it. This throws great professional decision-making responsibility upon the teacher which in turn demands an appropriate level of academic ability and professional competence.

Rising standards of teacher training in the developed world have resulted in the growth of a teaching profession which is capable of the skilful application of differentiation within a flexible curriculum. The situation in the RSA, however, where differing levels of teacher training are present means that it will be necessary during the preparation for curriculum innovation both to practise a differentiated approach to the curriculum in terms of teacher competence and to provide compensatory in-service training for those teachers who lack minimum standard qualifications.

5.3.21 The most important element in an acceptable system of differentiation within the curriculum is a well-trained and dedicated teacher who is recognized for his professional worth by society and his employers.

5.3.22 Co-ordination of curriculum differentiation in adult and vocational education makes necessary the involvement of the private sector as well as the formal institutions and resources provided by the State.

It is evident from the investigation that much activity takes place at adult education level both of a formal and informal nature involving both general education and vocational training. It is desirable that there should be co-ordination of these activities on a regional basis, not from the point of

control or of the insistence of uniformity, but rather from the points of view of conservation of professional educational expertise, and the prevention of unnecessary duplication as well as the dissemination of information on adult education facilities to local regional communities.

It is necessary for all tertiary level institutions, universities, colleges of education, technikons and technical colleges, to recognise their commitment through differentiated curriculum content to adult or lifelong education within the community at large through extension lectures and other courses.

5.3.23 Differentiation occurs in degree curriculum structures within and between universities in respect of degrees within particular faculties.

This principle is the basis of university autonomy in the modern world, and should not in any way be diminished. Within it is enshrined the right of each university to develop its particular academic character, strengths and interests to the advantage of the community as a whole.

Differentiation occurs in relation to the length of study for particular degrees. Universities may make use of advancement or retardation procedures depending on student performance noted at the time of registration or assessed during the course of study.

The institution of a common system of curriculum differentiation at university level is rejected for it would destroy the concept of autonomy, reducing the universities to the status of university colleges.

Within universities differentiation occurs in relation to study for degrees and diplomas. It is noted that

(i) failure to complete a degree in some instances results in the award of a diploma, and

(ii) in some instances particular aspects of degree and diploma courses are taught jointly.

These areas require investigation for it is felt that the result could be not necessarily the most desirable educational practice in the situation of developing communities; however, it may be necessary for this to be continued for some time.

Differentiation occurs in the selection of students for post-graduate courses within and between universities.

There is differentiation in the recognition accorded by the different universities to courses passed in colleges of education and technikons. There should be no attempt to prescribe a common policy at national level in this matter, although a body of opinion exists which favours the establishment of a central accrediting agency.

The facilities for a primary degree in education should be extended to meet a proved demand, the degree to be offered by a university, or a university in co-operation with a college of education.

5.3.24 At tertiary level, and particularly in universities, research is carried out on a differentiated basis depending on the resources of staff, facilities and equipment of the particular institution.

University research is carried out on a differentiated basis covering

(i) applied research relating to specific needs, and

(ii) research designed to extend the frontiers of knowledge.

Financial provision by the State for university-based research should continue and be extended, and should take into account both of these areas.

Research facilities should not be made available on the basis of differences of population grouping. The essential criterion is national need. Facilities should be available for all suitably qualified persons irrespective of race, colour, sex or creed to participate in such research.

CHAPTER 6

EVALUATION, EXAMINATION AND CERTIFICATION

6.1 INTRODUCTION

The title of this section of the report covers a very broad spectrum of educational activity. To encompass all that is included within it would require much greater detailed examination than is possible within the scope of the present work.

The aim, therefore, is restricted to an examination of particular concepts in direct relation to curriculum development in terms of current practice in the schools and other educational institutions in the RSA. An attempt will be made to create a framework for educational evaluation based upon the curriculum within which detailed evaluation and assessment procedures as well as methods of examination can be worked out and applied. Attention will be drawn to areas of evaluation in which it is necessary for further research to be carried out.

6.2 DEFINITIONS OF TERMS USED

6.2.1 Evaluation

Evaluation is concerned with the appraisal of quality. It is at once related to the aims of education set by society and their realisation in terms of the educational processes provided, including the curriculum. It involves also the quantification in terms of examination and other assessment techniques of the learner's success in acquiring knowledge, skill and understanding at all levels. It includes a determination of teacher competence as well as the assessment of outcomes in the production of socially adjusted men and women who are capable of meeting the demands of society in terms of manpower requirements. Evaluation, thus, in its broad sense, embraces the concept of educational accountability.

If "curriculum" is defined as "the offering of socially valued knowledge, skills and attitudes made available through a variety of arrangements

during the time the learners are at school, college or university", then evaluation is concerned globally with the quality of that offering and the effect which it has upon the learner. Evaluation really involves the use and interpretation of information to determine whether the objectives of a learning situation have been achieved (Boyce 1979).

6.2.2 Assessment

Assessment is an attempt to combine measurement with evaluation. It is a concept which evolved because of growing dissatisfaction with numerical measures which claim to be objective, but which leave out the reckoning of the personal worth of the individual. It has come to be applied also because of the equally great dissatisfaction with qualitative appraisals which are considered to be so subjective as to be little better than guesswork. Assessment is a means of determining to what extent learners have achieved the objectives of instruction. It therefore is an essential part of summative and formative evaluation.

6.2.3 Measurement

Measurement implies the adoption of a numerical scale for a specific assessment of the individual or of an educational process. It is a process which attempts to obtain a quantified representation of the degree to which a learner reflects a trait. Aptitude tests, intelligence tests and most achievement tests are forms of measurement. For effective comparison, measurement requires to be standardised. The majority of achievement tests in the teaching situation are not standardised measures.

6.2.4 Examination

Examination is a form of measurement which may or may not be standardised and which can take a variety of forms e.g. written, oral, practical, objective, essay-type. Or a combination of forms. The aim is to determine the learner's degree of mastery of a subject, a course or a curriculum.

Its purpose is generally summative, criterion-directed evaluation, although examinations may also contain aspects of formative evaluation e.g. the

revealing of individual and collective strengths and weakness in both the curriculum and teaching.

It is essential that examinations, to be effective, should possess the qualities of reliability (consistency in the maintenance of standards) and validity (effective measurement).

Dobie (1969) lists eight aims of examinations:

+ to ascertain what learning has occurred;
+ to test the learner's ability to apply knowledge;
+ to test memory;
+ to test a specific or a general ability;
+ to provide an incentive for learning;
+ to predict future attainment;
+ to select for various purposes;
+ to provide paper qualifications.

In the formative evaluation of the curriculum it would appear that these aims have relevance.

6.2.5 Certification

The award of formal recognition of the learner's performance:

in the completion of a particular level of education (Senior Certificate);

in selection for admission to a subsequent level of education (matriculation);

in admission to professional status (e.g. teacher, accountant, nurse, doctor);

in the demonstration of vocational competence (e.g. in the award of journeyman's status upon the completion of apprenticeship).

Certification implies the organisation of general educational processes (including the curriculum) into specific levels of mastery in achievement, or into specifically designed predetermined curricula, e.g. professional training.

It should be noted that the completion of formal schooling need not require certification upon the successful completion of examinations. It may merely mean that the learner receives a statement testifying to his attendance at school for a specified number of years at a relevant level of education.

From the definitions set out, it may be concluded that in the main curriculum evaluation must be concerned with formative, norm-directed techniques. Certain aspects of summative evaluation are seen as having relevance.

It is necessary to look at provision for evaluation in the present systems of education.

6.3 EVALUATION IN THE PRESENT SYSTEMS OF EDUCATION

6.3.1 Evaluation within the school system

(a) Primary School

Summative evaluation of the learner at the level of primary education has two functions:

Measurement of the learner's potential in terms of innate ability and aptitude. A battery of tests which includes the SA Group Intelligence Test is administered at carefully determined levels in most systems of education.

Historical tradition lingers, however, in the form of the requirement that the pupil should pass each step prior to promotion to the next. This is testified to by teacher, principal and inspector. It is in contrast to the practice of automatic age promotion, to be found in such countries as

England and Zimbabwe. It must in fairness be stated that practice in South Africa, particularly in the more highly developed systems of education, is increasingly taking on the characteristics of automatic age promotion.

The high rate of dropout from school among Black pupils means that many learners leave school with no assessment of achievement or potential, together with the danger that the value of education received by them may ultimately be lost.

(b) Secondary School

(i) Historically, formal externally controlled summative evaluation of the learner's progress in the South African systems of education has taken place at the levels of Stds VI, VIII and X, where each has represented a point of school leaving and selection for admission to a subsequent phase of education. It is as a result of this practice that the South African educational administrators have come to accept readily the dual-purpose function of examinations, viz testifying to attainment of completion of education, and selection for further education.

In the more developed systems of education, particularly the White and the Indian systems, the need for intermediate external assessment levels has fallen away and with it the formal examinations at Stds VI and VIII. It is only in the Black system of education that the need for the Std VII examination remains. This is, however, still an accepted level of entry to junior primary teacher training for Coloured students.

(ii) The main level of summative evaluation in all educational systems in the RSA remains at Std X, the terminus of the 12-year school system. This terminus has been of the most significant importance in the educational, social

and career progress of the adolescent of whatever population group in the RSA. The Senior Certificate examination, or more popularly, "matric" dominates the lives of young South Africans, their parents, teachers and employers. He measures his financial progress beyond it in terms of "M+" a number of years of approved post-school training. One can envisage South Africans at the pearly gates will be classified for admission in terms of their "M+" status! The trauma suffered by the young adult who has failed, or been denied the opportunity, to achieve the magic "M+" may well be imagined.

An aspect of this evaluation process is that within it, one set of measuring instruments is used, as stated previously for two distinct purposes, viz certification of satisfactory completion of the full secondary level of education, a purpose which should lay stress on the formative evaluative function, as well as selection for admission to university study which must place particular weight on the summative function.

In order to fulfil the evaluation function the instrument must seek to set a realistic standard consonant with certification of completion of secondary education. This should be a modest level within the reach of the majority of learners. To provide a satisfactory selection mechanism a standard providing reasonable prediction of success in university studies is required. In 1963, before the introduction of the new differentiated curriculum and examinations, Steyn found that the matriculation did provide this. Increasingly, however, and particularly since the introduction of differentiated admission levels, concern has been expressed at the high failure rate in first-year studies in the universities in the RSA. It has been repeatedly stressed that where a modest threshold of admission

to university studies is set, a relatively high failure rate in undergraduate studies is inevitable.

The foregoing has been written primarily with the White learner in mind. The pattern is repeated in each educational system for each population group, with the less well-developed and provided- for systems suffering odious comparison with their more sophisticated counterparts. Thus, not only is there a disparity of outcomes for learners from different population groups, but the whole evaluation mechanism provides an area of public and professional debate centering round equality of standards, as well as ethnic and educational discrimination.

It may fairly be said that few educational topics in South Africa, have been so deeply and widely debated as "matriculation", yet it remains an area in which much research has still to be done.

The problem of the maintenance of equality of standards in this complex pattern is now being exacerbated by the exponential increase in the numbers of candidates, particularly Black, coming forward for examination. This flood tide could engulf the whole system; review, reassessment and innovation in this whole process of pupil evaluation at the end of the school curriculum is vitally necessary.

6.3.2 Evaluation outside the school system

(a) General

Formative evaluation outside the school system tends to be less important than within the school for the emphasis here is upon the attainment of levels of achievement by learners following career choice and vocational preparation and seeking to obtain qualifications for entrance to or promo-

tion within employment. Assessment here, therefore, is focused upon summative evaluation.

There is no doubt, however, that formative evaluation at this level is of growing importance within institutions and organisations offering courses of professional and vocational preparation.

Examples:

(i) All universities have become concerned with staff and student performance with emphasis on student failure rates. A variety of units, departments and less formal committees have been established to evaluate processes and to improve teaching within them.

(ii) Professional bodies such as the Society of Accountants have been concerned with courses provided and have entered into discussion with universities in connection with syllabuses, teaching methods and examinations.

(iii) The Nursing Council and provincial nursing authorities have courses aimed at improving instruction within prescribed courses.

These examples indicate the realisation stemming from what is primarily summative assessment that formative evaluation is necessary in the improvement of curricula and teaching methods.

(b) Universities

Universities as academically autonomous bodies have their own independent evaluation procedures for the award of their qualifications. No common system exists or should exist other than that provided in university and joint statutes

regarding the duration of study and examinations for the award of particular degrees and diplomas.

As indicated above universities are becoming aware of the needs of learners and teachers and are taking positive steps towards the evaluation of teaching methods and study habits. More work needs to be done in this field.

At the same time universities prepare students for particular professional qualifications, e.g. Certificate in the Theory of Accountancy, Higher Education Diploma, etc. Here it is necessary to accept a common evaluative yardstick determined by professional bodies outside the universities. It is essential that such criteria as are laid down for such purposes should be determined, interpreted and implemented professionally rather than administratively. The effect of such criteria determination is to make uniform the structure of a particular curriculum, although both content and evaluation processes are usually not precisely defined, except where examinations are the particular responsibility of a professional body. An area where this activity has at times produced unfortunate results has been in the interpretation and evaluation of certain overseas teaching qualifications.

(c) Colleges of Education

Curriculum and certain examination requirements are prescribed by the education authorities to which the colleges belong.

In the case of the White systems of education and in terms of the 1974 amendments to the National Education Policy Act (Act 39 of 1967), varying degrees of co-operation have developed between colleges, their respective education authorities and universities. This has led to a greater or lesser degree of autonomy being granted to colleges in respect of curriculum and evaluation, provided that the predetermined criteria are adhered to. This is a development which has yet to take place in systems other than White, and should follow as institutions grow in experience.

Interinstitutional co-operation outlined above has resulted in varying levels of accreditation for degree purposes being granted by universities for courses taken in colleges. Evaluation here is an interinstitutional process, with universities finally setting the seal on the standard and quality of work undertaken by colleges. This in its turn has led to the introduction of new degrees e.g. Bachelor of Primary Education, which are awarded by universities upon their evaluation of agreed curricula and syllabuses. Evaluation of student performance is undertaken on courses which may have been taught in a university, in a college of education, or jointly in both.

It seems necessary that despite the evidence presented in the Biebuyck Report consideration might once again be given to the establishment of a body like the Council for National Academic Awards in Great Britain for the purpose of validating degrees taught in polytechnics and colleges of education.

Boyce today recommends that such validation might be extended to university degrees, a suggestion which is hardly likely to find support in university circles.

(d) Technikons

Summative evaluation in technikons is, in the main, provided through student assessment in written and practical examinations prescribed nationaly by the Department of National Education (National Technical and National Diplomas and Certificates). These apply to all systems and to all population groups.

Increasingly recognition of courses taught in technikons is being sought from and granted by universities for degree purposes. This is the same process as that noted for colleges of education.

(e) Trade, Industrial and Vocational Training

Courses provided by the Department of National Education is evaluated by external examinations set by that Department. Representation of interested bodies in such courses is provided for by legislation e.g. Apprenticeship Act.

(f) Evaluation in courses offered by the private sector

The large body of training courses undertaken by private organisations are assessed and evaluated in numerous ways. The courses extend from basic literacy through preparation for examinations at various levels of formal education (e.g. Senior Certificate), skill acquisition, job mastery and improvement. All the evaluation techniques, which are in the main assessment devices in the form of examinations or tests, emphasise summative evaluation, but include qualities of formative evaluation.

Little provision is made for co-ordination of such practices through which expert knowledge of the evaluation of curricula could be made available to the persons and organisations responsible for such courses.

It would appear from the foregoing that the present pattern of evaluation, examination and certification is a complex one which indeed it is. Within certain basic parameters, at school level and beyond, evaluation is undertaken by different outcomes relating to the degree of sophistication of the system, of the competence of teachers within the system and of the socio-economic and cultural backgrounds of the learners within the system. No provision is made for the evolution and development of curricula through scientific principles of evaluation which will meet the need for uniformity and diversity of the education offered to the youth of the RSA such as is set forth in the second and the fourth statements in the Principles for Education in the RSA on which this investigation is based.

CHAPTER 7

CENTRE FOR CURRICULATING

On the grounds of a survey of the present curriculum situation in the RSA a tentative indication was given in Par. 1.11 that a central institution, centre or institute for curriculating could do away with many of the existing shortcomings regarding the scientific and justifiable handling of curriculating (i.e. the design, development and evaluation of courses, curricula, syllabi and manuals) also regarding the realisation of the ideal of providing equal education.

7.1 CURRICULUM MODELS

The question of curriculum in different countries will now be outlined.

7.1.1 Less developed countries

The following aspects are discussed under this heading

(a) School readiness: In many African countries the policy is to raise the age of entry.

(b) Length of school courses: The tendency is to shorten the period of primary schooling.

(c) Length of school day: Owing to the large numbers a morning and an afternoon session are being planned for.

(d) Medium of education: In the English-speaking African countries the following aspects are of importance:

- The functional value of English in society
- Scientific and mathematical language concepts are difficult to translate.
- In some states heterogeneous group languages are found that are used only by small groups.

(e) Selection of subjects: The general opinion is that languages (especially English) and Mathematics are the most important subjects, whereas cultural and creative subjects are considered to be inferior.

(f) Subject content in syllabi: As far as the cultural subjects for example Art and Music are concerned, there is a tendency toward integration of a number of related subjects. In Physical Education and Health Care the tendency is to move away from fixed formal training toward the training of skills. General Science knowledge and ability are striven after. In History and Georgraphy a degree of integration is attempted by concentrating on local objects and events from the past.

(g) A few warnings:

- Much of the syllabus content is divorced from life and has little implementation value.
- Insufficient curriculating is done with the actual rural pupil in mind.
- The syllabi are in many cases overburdened especially as far as languages and Mathematics are concerned.
- In the social and cultural subjects too many abstract concepts from other civilizations are taught.
- More open syllabi with only core content as focal points will have to be planned for.

(h) In the higher classes too much use is still made of public examinations coupled with the known evils such as coaching/ cramming and examination strain.

7.1.2 Developing countries (semi-illiteracy)

(a) USSR

The phasing out of semi-illiteracy is achieved in two ways, namely

- development of the children
- development of a heterogeneous group of adults.

The training is a matter of mastering the basic abilities of reading, writing and elementary mathematics.

In 1958 the task of secondary education was further defined as an attempt to prepare the child for life in such a way that he would be socially productive and knowledgeable in respect of general scientific and technical principles.

Three curriculum models are to be identified:

- Eight-year course at a polytechnic school. Pupils between the ages of 7 and 16 receive education which includes scientific principles as well as technical and vocational training.
- Language schools in which are included the vernacular, literature, environmental geography, historical themes and cultural events.
- General polytechnical secondary school (grades 9 to 10). A continuation of the previous eight-year course. Complete general and technical training as a continuation of earlier courses.

During the sixties a start was made with curriculum reform owing to particular internal, and above all, external pressures. The reason for the modernisation was stated as follows:

- The uparalleled increase in information
- The variability of the content
- The greater complexity of scientific concepts.

In pursuance of the examples set by Western countries a start was made with differentiation: special types of schools and optional courses.

(b) Argentina

Argentina displays a great variety of school types which make provision for each conceivable course of study in the structure of its secondary system of education.

Tertiary education is apparently well organized. Initial work in the case of some courses is already done at the secondary school level.

(c) Chile

The different types of primary schools are apparently an administrative matter. Teacher training for primary schools is included at the secondary school level.

7.1.3 Highly industrialized countries

(a) France, West Germany and Italy

The following is relevant in this context:

In the light of its multi-ethniticity and cultural variety it seems that the matter of differentiation should, at least at the primary level, be broached. If the question of an equal dispensation for all groups is to be broached, it would appear that a convergence of the educational structure should take place, but only in respect of the content and the language medium.

(b) United States of America

Decentralization of education has the important advantage that each community can organize its education in such a way that it links up with the needs of the particular community. The necessary elasticity in curriculum and syllabi however also make it possible in the case of a centralized systems of education.

The organization of secondary education appears clumsy. It is difficult to consider how standards can eventually be set, especially with a view to tertiary education. A uniform secondary school system ensures accuracy in the procedure of determining standards.

In the field of adult education the USA has apparently made considerable headway especially regarding basic education meant to take adults to particular scholastic levels.

Whether the idea of a junior college is a good one, is controversial. It seems, however, that the existence of such colleges could bring about the fragmentation of universities. In the case of university education the individual has the opportunity of taking up a specialization course sooner or more successfully. The practice of general cultural education in the case of undergraduate study is apparently a healthy principle. The issue however is whether it does not point to flaws in secondary education.

(c) Canada

Canada offers an acceptable model in respect of provision for ethnicity. Secondary and tertiary education generally show considerable similarities to that in the RSA. It is especially with regard to continuing education, in-service training, vocational training and the trades that Canada presents a significant model.

(d) Australia

The allocation of education to the different states apparently does not have a detrimental effect on education. Admission to university study can be obtained with the "lower" certificate (school certificate) in Australia. The curriculum content is very similar to that of the RSA. As optional subjects Australian schools offer courses which are of great importance to their Eastern involvement. In Australian territories the tendency is to get children on an English proficiency level as quickly as possible to enable them to integrate with the rest of the Australian system of education. The facilities provided to train people in different technical fields on different levels appear to be well organized. Colleges for further education correlate with the technikons in South Africa and as far as university education is concerned there are no differences worth mentioning.

(e) Taiwan

The system is so thoroughly worked out that it is worth making a thorough study of it. Tendencies that are clearly identifiable from the content of the curriculum are, inter alia, the following:

- It is characteristic of a system of education that values its own culture and traditions highly and therefore wishes to elaborate on them in the education.
- It is clear that education is aimed at survival and the preservation of an own identity.
- Physical and intellectual preparedness is strongly emphasised.

Thorough schooling in the sciences and mathematics is apparent and is an indication of the high premium placed on technology. The ennobling effect of manual labour is impressed upon the people. Strong accents of indoctrination are to be detected

which are really only functional in the case of a homogeneous population.

7.2 CURRICULUM PROCEDURES

The preceding curriculum models are realized according to particular organizational structures and within particular departments of education. A few such organizational structures as well as the procedures that are followed with a view to efficient curriculating will subsequently be discussed.

7.2.1 Schools Council for Curriculum and Examinations, London

The Schools Council is an independent council which was called into being by the Department of Education and Science to undertake research and development in respect of the curriculum and examinations and to advise the ministry on policy. A few important aspects regarding the performing of said functions are touched on in the following.

(a) Requests regarding improvements or renewal usually come from the regional departments of education (LEA's).

(b) The testing of subject matter, new approaches or new methods is regarded as the key activity in a programme of curriculum innovation. Teachers' participation is voluntary.

(c) The LEA's are approached to select schools for participation.

(d) The central co-ordination of scientific curriculating and the availability of full-time expert personnel are strongly emphasised as factors that promote efficiency.

(e) Dissemination of the innovation takes place through and in co-operation with teacher centres which are effectively organized to render services to teachers involved in the execution of projects or the implementation of innovation.

7.2.2 Projekgroep Leerplanontwikkeling Natuurkunde (PLON): Rijksuniversiteit, Utrecht, The Netherlands

The following procedures were followed in the execution of this project:

A study unit/module which indicates the points of departure, the content, the aids, etc. is drawn up and tested.

Co-operation with schools: First round 20 classes and second round 65 classes.

Materials are tested three times in each class and the project is supervised by the Adivosry Committee for Syllabus Development.

7.2.3 Stigting Leerplanontwikkeling (SLO), Enschede, The Netherlands

This foundation is a national education aid service and has as task, inter alia, the co-ordination of curriculum development in the Netherlands which is executed in co-operation with schools by work groups consisting of full-time and part-time experts. The SLO renders service on request but also advises the authorities regarding policy. There is close co-operation in respect of the advisory services which carry innovation into schools.

The activities of the SLO are assigned to seven departments and the SLO has at its disposal a professional staff who are experts on subject content and curriculum research and evaluation.

In the Netherlands about twenty committees have been appointed for the modernization of syllabi (CML's). They continuously investigate and consider possibilities for the innovation and improvement of syllabi which are in many cases tested in close co-operation with the SLO.

7.2.4 The Institute for the Pedagogics of the Natural Sciences (IPN), Kiel, West Germany

With its full-time staff of almost one hunderd assisted by almost 200 part-time staff members the IPN executes curriculum projects on request and also on own initiative for West Germany. The main task of the IPN is the scientific development of curricula (syllabi and manuals) for the natural science subjects. The shortcoming in the curriculating work done by the IPN is, however, as in the case of the Schools Council, its lack of direct contact with the education practice.

7.2.5 State Institute for School Pedagogics (ISP), München, West Germany

The ISP's commission is that the outcomes of curricular work should promote education and should be made available to the education practice. Its task extends across the whole area of school education and, includes the following:

- Innovation of instruction syllabi
- the scientific accompaniment of curriculum projects executed at schools
- the contextual planning of further and in-service training in co-operation with the department and teacher training centres.

A director is in charge of the ISP which comprises five sections, each in respect of a specific area of education. Obviously there is close co-operation between the different sections. The execution of projects is a co-ordinated effort by all sections. The ISP's work is commissioned by and done solely for the department of education. A programme for the year is worked out beforehand by a departmental committee of inspectors, ISP staff members and professional departmental officials.

A work group consisting of seven members (subject teachers and subject specialists) headed by one of the Institute's subject specialists draws up a draft curriculum. It is published and sent to schools and teachers of

all schools that teach the subject for their comments. A selection of experimental schools is made in collaboration with the department. After adequate testing the ISP processes all data and draws up a final draft curricular syllabus for submission to the department with a view to approval for general implementation.

Manuscripts of finalized curricular syllabi and manuals are given to publishers for publication. The writers (usually members of the work group) are not reimbursed but the prices of the publications are kept low.

Fifty of the approximately 80 ISP staff members do professional work. Almost all of them are teachers except for some members of the general or pedagogic section who specialized in psychology, sosiology or pedagogics.

7.2.6 Curriculum Centre, Israeli Department of Education, Jerusalem

The following procedure is followed in this curriculum centre:

The leaders of the curriculum committees who are appointed by the head of the Centre (approximately 20) are members of the Curriculum Centre.

The Centre is responsible for the planning and organization of experimental research and also invites schools to participate.

One of the Centre's important functions is the co-ordination of all curriculum development activities in the country.

The traditional method, in which case the drawing up of a syllabus was the task of an ad hoc committee has been superseded by a system of continuous development which is regarded as a continuous process of curriculum planning, testing and improvement. Even after a complete curriculum has been published the specialists' task is not done. Attention is continuously given to the development and improvement of curriculum objectives, content and to didactic guidelines with a view to particular needs.

Errors made in the past made it clear that the co-operation of all groups is necessary for successful curriculum development. The 32 regional pedagogical

centres which offer guidance in practical education, also perform a special task in implementing curriculum innovation. Educational advisors, usually experienced teachers, are appointed by these centres. They advise individual teachers or arrange discussions and group guidance at the centre.

A special arrangement is the choice of a teacher in a school who is trained to bear the responsibility of the introduction and training in respect of the innovation at his school. They are called subject co-ordinators.

7.2.7 Scottish curriculum centres

As far as the curriculation procedures in the Scottish Department of Education are concerned, the following can be said:

- At present there are four Scottish curriculum centres under the guidance of and controlled by central committees. In this way there is, for example, the Central Committee for Natural Sciences with sub committees for specific subjects such as Biology. The committee decides on the developmental work which is to be undertaken and the centre then executes the developmental work.

- The directors of the above-mentioned curriculum centres meet periodically to discuss matters of common interest and to deliberate on models and strategies for curriculum development.

The policy in Scotland in respect of curriculum development is one of continuous revision and innovation rather than of the execution of single projects. The central committees are appointed permanently while the work groups are appointed on an ad hoc basis for particular investigations. The curriculum centres are also permanent institutions and the execution of projects are referred to the centres in accordance with the subjects they handle.

A remark that has been made and that deserves attention is that it would be more advantageous to unite the four separate centres in one body.

In Scotland education centres play an important part in the whole process of dissemination of innovation and have among others, the following functions:

- The supply of information
- Development of educational material
- Curriculum development and experimentation.

The Central Committee selects specimen schools for particular investigations and behorehand formally negotiates with the education authorities for permission for particular schools to participate in the project. If developmental work has implications in store for the national examination's syllabi, a joint work committee is appointed to implement the development.

7.2.8 Curriculating procedures in the USA

During 1979 TED officials visited eight different educational institutions in the USA. As far as the procedures for curriculum development and research are concerned, the following were inter alia found to be of importance to this investigation:

- An investigation programme commences with the appointment of a committee.
- A manual containing objectives, content and didactic guidelines is drawn up.
- The manual is tested and the findings are continually evaluated.
- Participation by schools is voluntary. During the first round of testing of a manual few schools are involved, but in the case of later rounds increasingly more schools are involved.
- After the testing has been completed a curriculum unit/module which has been developed and which contains full details, is made available.

- Regional service centres (in Texas there are 20) form the link between the central (departmental) curriculum institution and the school district units. It is a form of decentralization and renders a general service.

- Teachers receive intensive in-service training before a draft manual is experimentally tested.

- In-service training is regarded as an essential component of any curriculum development programme.

- In the Denver school system curriculum development is undertaken by an organization of committees; instructional committees, curriculum committees and special committees which form an integrated network covering the district.

7.2.9 Curriculum procedures in Canada

The position in the Etobicoke Board of Education is taken as an example. In this case the following is of importance:

(a) The head of education is the chairman of the co-ordinating curriculum board of which the curriculum section is one branch.

(b) The curriculum section co-ordinates the activities of the different curriculum committees of which there is one for each subject.

(c) The curriculum committee appoints subcommittees for the different activities, for example for the writing of a draft manual.

(d) One of the members of each of the curriculum committees is a staff member of the research section of the department.

7.3 SYLLABI AND CORE SYLLABI

7.3.1 Introduction

The problem in this regard is: "to disentangle the confusion over the very concept of the curriculum . . ." (Becher and Maclure, 1979, p. 9) and also any other related concepts, secondly to obtain clarity on the interdependence between curriculum and syllabus and thirdly to give attention to the nature and desirability of core syllabi.

It is assumed that stability in respect of the meaning, interdependence and handling of the terms curriculum, syllabus will not only promote research but also the practice as well as domestic and foreign communication.

7.3.2 Curriculum (course of study)

The term curriculum is applied as follows on the three formal education levels:

Tertiary education: As far as universities are concerned the term course of study is used as a synonym for curriculum and in the year books mention is often made of an approved course of study or curriculum. In this respect it indicates a collection of subjects and also the number of courses in each subject which as a group satisfy the requirements of a degree or diploma course at a particular university.

The terminology used in the 1980 year book of the Technikon Pretoria appears to correspond to that of a university.

Secondary education: The typical use of the term curriculum in respect of secondary education in provincial departments of education is illustrated by the following official utterances:

> "In the new curriculum for secondary schools some subjects have been omitted and others introduced" (Par. 3.2, p. 2. TED Circular No. 19 of 1972).

. "The curriculum for the senior secondary school phase (ordinary course) has been compiled in co-operation with the JMB"(TED Education Bureau, 1976: Certification in differentiated education, p. 9, Par. 3.5).

. "The curriculum for Std 5 is compiled as follows" (Par. 1.2.1.3 (4), p. 10: Consolidated report on CHE resolutions re differentiation, curriculum and guidance for secondary schools). (Translation.)

As far as foreign countries are concerned, the term curriculum or course of study is used in its traditional sense just as in the RSA and especially in respect of the senior secondary phase, as a group of subjects which are offered in a school, course or field of study. This also applies to the junior secondary phase, but on both levels mention is often and increasingly made of the curriculum of a subject in literature and also in practice. With the curriculum of the subject is then meant the total content of a subject for a specific phase, course or field of study as built up around, and as an extended interpretation of, the group of relevant syllabi. In this way the curriculum for the subject Mathematics for the senior secondary phase (ordinary course) will comprise the syllabi for Stds 8, 9 and 10 as well as subsidiary refinements of objectives and content as well as matching study guides, manuals and guidelines. Important however is that the term curriculum here used in the micro-curricular sense does not amount to the mere compilation of said aspects around the curriculum, but, and that is why the term curriculum performs a particular function, to the systematic, tested, coherent build-up around the core content which is indicated in the relevant syllabi. Hence the use of the expression curriculum development to indicate the effective, systematic, co-operative and continuous improvement and innovation of the curriculum and therefore of education.

In the same extended sense regarding the subject content the term curriculum is used in other constructions, for example curriculum design and curriculum evaluation.

Curriculum as used in the latter sense aims to lay particular stress on the unity of the subject content components: objectives, content and didactic guidelines.

Primary education: As far as the RSA is concerned, the term curriculum is generally used in the sense of the collection of subjects offered at a primary school. It is especially in the case of primary education that the term curriculum is frequently used abroad in both the micro- and macro-senses. Macro-curricular use was found especially during the forties and the fifties. Micro-curricular matters began to receive special attention as from about 1960 (Sputnik).

7.3.3 Syllabus or scheme of work

On whatever level it is found, the syllabus is used to indicate the content of a subject briefly and to the point. It is particularly found to be an indication of the content used when formal examinations are set. The concept is internationally used and the documents in different countries differ only in respect of scope, specifications and obligations.

In the light of the foregoing a syllabus can possibly be described as follows:

A syllabus is a short summary of compulsory and optional topics and themes pertaining to a given subject or course which is to be taught on a specific level and during a stipulated period of time.

7.3.4 Core syllabus

A core syllabus as it is known in the RSA is a syllabus which is drawn up by the CHE and which is common to as well as binding on all departments of education under the CHE. The core or common syllabi that are compiled under the guidance of the JMB are binding in respect of all institutions that prepare pupils for the matriculation exemption examination.

These common syllabi which are known as core syllabi should, in accordance with the name core, indicate only essential content.

Common syllabi have the advantage that they do, as far as examination is concerned, make a high degree of uniformity and therefore equality of standards possible. The notion of clearly specified common syllabi is supported by many, but vigilance is necessary regarding excessive specification as it could restrict and be detrimental to diversity, adaptation possibilities and development opportunities.

The committee's view however is that a syllabus or common syllabus where used, should indicate only themes and a few essential guidelines and that such syllabi should leave room for the needs of special groups.

Syllabi should periodically be revised whereas the curricula of subjects, having been built up around syllabus content, should continually be studied with a view to improvement or innovation. A curriculum centre, as found in many countries, could, in co-operation with educational and training institutions, render a special aid and co-ordination service in this respect.

7.3.5 Summary

Form the investigation, as was briefly conveyed in the foregoing, it appears that:

- a syllabus in some form or another and sometimes under a different name, with a lesser or greater degree of detail and obligation is found in many countries to give a definite line to the course of education within a certain subject;

- in many countries the practice is increasingly found of supporting syllabus content by means of detailed manuals and other aids, which are developed under the guidance of or in co-operation with a well-equipped curriculum centre/section, and that in respect of a subject, the collection of syllabi, manuals and other related materials are referred to as the curriculum for the subject;

- the possibility or ideal of a compulsory core syllabus for a whole country can only be realized in a centralized system with a unilingual homogeneous culture and population structure,

but that a degree of commonality, which can be accomplished by co-ordination, is necessary and desirable for the comparability of standards desired by the employer;

- prescribed syllabus content, especially as regards the common syllabus should be limited only to that which is essential;

- the subsequent extension of subject syllabi by inter alia the making available of more comprehensive and clarifying, thoroughly tested manuals and other aids, will be the function of curriculum centres (regional and central) in close co-operation with representative supervisory, planning and work committees.

7.4 THE CURRICULUM

An investigation of the activities of different institutes or sections shows that it concerns curricula of school subjects: design, development, implementation aid and evaluation. Various writers as well as a recent visiting educationist point to the fact that the curriculum in its macro-set-up (subjects, subject groups, etc.) should not be overlooked. It is indeed the area where most decisions are made regarding content.

It is pre-eminently the task of a central curriculum institution to give attention to the structure of the curriculum on the various levels of, and phases in education. Such an institution could undertake the different activities underlying curriculating scientifically and in a co-ordinated way. Co-ordination is important in this macro-curriculum area as attention should continually be given not only to special needs, but also to the needs of the country as a whole in the light of its particular manpower requirements caused by a growing economy.

Co-ordination in the field of this research is furthermore important owing to the requirement that the same criteria and principles be applied for each investigation which is undertaken.

A national or South African curriculum centre, as ancillary service, could in this way render equivalent services to any department or educational institution which is in need of its specific skills.

In view of the urgent shortage of expertise which will continue for some time and in order to prevent unnecessary duplication of work, the obvious way to provide for the country's needs is to bring together a group of experts in the curriculum and curriculum research field.

Experience in many countries furnishes proof that specialized units of this kind can act very effectively within a few years because of inter alia the possibilities they provide for co-operation, dialogue and the accumulation of theory and experience.

Matters such as differentiated education and examination that are closely related to the curriculum structure require the continuous attention of a group of experts who can investigate and evaluate these matters in a co-ordinated way.

In this respect attention should continually be given to curricula which effectively provide for the need for basic education for everyone, for relevance, continuity and other similar requirements. The need for manpower in the different sectors should continually be taken into consideration in developing curricula so that justice can be done to general, vocationally oriented and vocational education so that pupils who leave school at different levels are adequately prepared to join the labour market.

The problems surrounding the curriculum are of national importance and should therefore continually be evaluated and investigated preferably by a national institution for curriculum and curriculum development.

A centre such as envisioned here, should be able to advise or assist any instructional institution in the RSA in respect of the design of a curriculum which satisfies scientific requirements. This kind of aid and advice is imperative in the case of many organizations that offer training and compile a curriculum for a particular course without proper investigation (situation analysis, learning needs, etc.). Curriculum

experts who have broader perspective on matters and who, through co-ordination and co-operation, command insights which the individual is not in a position to obtain, can in this case render a service which will be of particular value, not only to the institutions, but also to the learner.

The curriculum centre envisaged should have a permanent brief to evaluate all curricula in the light of specified criteria. This will avoid duplication and provide continuity due to the fact that the learner and also the educational institution will have clarity on the matter.

The experts who devote attention to the curriculum in the macro-set-up should constantly be in touch with the group of experts who devote attention to the content and presentation of the components of the curriculum (subjects). Co-ordination between these two groups is important as it broadens the perspective on either side enhances the quality of the advice and support considerably.

In curriculum investigation, be it undertaken in the micro or the macro-field, the advice of a few other experts is of the utmost importance. In this case the inclusion of experts in particular fields such as the following, come to mind:

- educational psychology
- curriculum evaluation
- research methodology
- philosophy of education.

Experience abroad and in this country (TED) shows that a group of experts who are joined together to form an ancillary service in a unit such as described above, within a few years make a positive contribution to the raising of the quality of advice and recommendation in respect of the curriculum in its full context.

In order to make available the necessary aid and advice regarding curriculum matters to every department of education, to the extent in which depart-

ments do not in this respect have equal facilities at their disposal, the services of a national centre with capable personnel, adequate facilities and effective liaison possibilities are essential. The effectiveness of these curricular services depends on the close liaison with regional centres where facilities for discussion, training, demonstration, etc. exist. It should especially serve as a liaison base for departmental officials and the experts from the national centre that is envisaged. It is known that some departments of education have already progressed far in establishing teacher centres to handle similar and other services.

In conslusion it can be claimed that macro-curricular matters, even more than micro-curricular matters, necessitate the establishment of a national service, equal for all departments of education and institutions for the unique situation in the RSA.

7.5 SELECTION OF CONTENT

The selection of curriculum content is discussed under the different levels and types of education.

7.5.1 Primary and secondary education

As far as a practice for the future determination or selection of curriculum content is concerned, one assumes that the practice should satisfy the following requirements:

- It should effectively make provision for the determination of suitable curriculum content for groups in society for whom only limited and inadequate provision is at present made on particular levels of education.
- It should make provision for the realization of effective changes in the curriculum content.

In this respect one should bear in mind that the following groups of people exercise an influence on the curriculum content:

- political, church and professional groups
- officials of central and regional departments of education
- scientifically and subject-oriented pressure groups
- teachers and teacher associations
- educational research institutions and universities
- employers, parents, students and pupils

The following three tendencies in the historical course of Britain are matters which possibly should be considered at present:

- the increasing role teachers play in the determination of curriculum
- the increasing institutionalization of the curriculating practice
- the increasing role employers play in the selection of content.

As far as the role of the teacher in the total RSA set-up is concerned, it appears that a diversified practice for the determination of curriculum content is necessary, wherein teachers on the one hand will have the opportunity to play a significent role in respect of the selection of curriculum content, but on the other hand will be provided with detailed curriculum material.

In order to be able to set guidelines for the selection of curriculum content, it is necessary to take into consideration the following two requirements which are at present imposed upon the system of education in the RSA:

- The extension of education facilities with a view to making equal facilities available to all population groups.

> The design and implementation of curriculum changes with a view to greater relevance and affiliation to manpower needs and sundry cultural requirements.

A strategy often followed with a view to the realization of changes in the content of curricula, is the establishment of a centralized curriculum development organization. Literature consulted indicates that the effectiveness of such organizations is dependent on particular conditions.

The role of the teacher in carrying through innovation is put by Kerr as follows:

> "The spread of the new ideas and approaches into the schools depends on the teachers ... The work of a Curriculum Development Centre should be guided by two principles which have a crucial effect on the outcome of any project: teacher involvement, and integration of available resources" (Kerr, in Hawson, 1970, pp. 74 - 75).

One of the ways in which the first-named principle can be carried into effect, is to involve teachers in the planning and execution of projects.

Selection of curriculum content cannot be done only from the top "one has to start from the ground roots" (Nisbet, 1980, p. 11). On the same page the author also states:

> "The effectiveness of innovation ... is dependent on the extent to which the people concerned perceive a problem and hence realise the existence of a need".

Seen in this light the primary function of a central curriculum organization is the stimulation of thought on curriculum and curriculum development, but also the initiation and co-ordination of curricular activities and undertakings across the country.

Some guidelines for the practice of the selection of curriculum content are subsequently set:

(a) The selection of content should be coupled with the rationalization of the content in terms of objectives and the broad anticipation of learning activities.

(b) The central institution should identify and draw together knowledgeable persons to make contributions to the establishment of curriculum content.

(c) The institutions should also contribute to and have at their command the structure to undertake or to help undertake curriculum development.

(d) The central institution should have at its disposal an adequate and effective variety of expert personnel.

(e) The institution should provide for the organization of representative supervisory, planning and work committees.

(f) There should be effective and significant co-operation with regional education authorities.

7.5.2 Tertiary education

Curriculating takes place in each individual university by the individual lecturers under the guidance of the heads of departments concerned. Subject and professional societies sometimes exercise a fundamental influence in this respect. In this regard there is, however, a need for co-ordination, not only between universities, but also between universities, technikons and colleges. It is evident that liaison should take place between technikons and also among colleges themselves regarding curriculating. The same applies to the different correspondence colleges.

7.5.3 Adult, enriching and compensatory education

Since these forms of education will become increasingly more important, co-ordination is of the utmost importance so that, among others, there will be continuity in the curriculum and also a link with past courses.

This field of curriculating deserves special attention to ensure the significance and relevance of the education that is offered. The necessary structure should be established so that curriculating for these forms of education can be handled in a co-ordinated way by a central curriculating institution.

7.5.4 Summary

Education at all levels is related and this relation should be reflected in curricula so that effective introduction of new curricula and change of education can take place country-wide. A central institution is a necessity to co-ordinate curriculating as well as the results of curriculating, especially as regards the preservation of curriculum principles, the evaluation of procedures according to particular criteria and the development of effective curriculum models. Equivalent provision of education and the possibilities for education comprise, inter alia, the availability of and accessibility to expert curriculum services.

7.6 CLASSIFICATION AND DISTRIBUTION OF CONTENT

Prescribed content is contained in syllabi compiled by committees. Although the sequence of themes in syllabi for a particular standard in many cases need not necessarily be followed, the sequence in some subjects (for example Mathematics) corresponds to the development in the subject and the instruction takes place in that order. Syllabi or revised syllabi are implemented according to a fixed programme in the RSA. The implementation is not preceded by a period of scientific testing and consequently the classification of content, insofar as the syllabi allow it, is undertaken by textbook writers. Textbooks contain detail and indicate a possible sequence for the handling of learning content - hence the teacher's urgent demand for textbooks which in many cases serve as manuals for teachers. At present there is a procedure laid down for the revision of syllabi (CHE) which gives an indication of the times of implementation of revised syllabi and also indicates for which subjects each provincial department of education is responsible regarding the taking of initiative and the execution of research to improve syllabus content.

One can, among other things, experiment with a modified classification of the themes in a syllabus referring to a particular year. This creates the possibility of submitting, within certain limits, well motivated modifications in the classification of content to the syllabus committees for their consideration. It is however preferable that a syllabus should as little as possible be prescriptive as far as the sequence of the handling of learning content is concerned. Research results in this regard should only serve as guidelines. It would however be advantageous if syllabi could be implemented in an experimental manner at a few schools under the guidance of a research institution which could undertake the matter scientifically before full-scale implementation. A central curriculum institution should pre-eminently be equipped to undertake such a task in co-operation with regional departments of education so that sound guidance can be given betimes concerning, inter alia, the sequence in which the prescribed themes should be dealt with. Timely testing will also eliminate many faults which are difficult to rectify when discovered later. The said modus operandi of the CHE for the revision of syllabi is an indication that co-ordinated procedures can be worked out for the systematic testing beforehand of syllabi which can be implemented experimentally in an increasing number of schools until the finalized syllabus is implemented country-wide (München). As is done in many other countries, detailed manuals can be tested simultaneously to provide guidelines for education, the writing of textbooks and for evaluation (examination). With such treatment of syllabus content sound guidance can be given in respect of the classification of learning content.

The question of the classification of learning content is not limited to the syllabus, but also has a bearing on the curriculum in its marco-context, i.e. on the classification of subjects in consecutive years, the grouping of subjects in, for example, subject sets or subject units. It also has a bearing on the arrangement of subjects in particular phases and courses. Moreover it has a bearing on not only the learning content offered at schools, but also on the content of courses at all other educational institutions. It is in this very respect that many enquiries are made about aid in the structuring of courses. The latter need which is constantly becoming more visible (for example at Instructa 80, RAU) is above all a matter to be handled by a central curriculum organization which commands the expertise to render a service country-wide so that the

classification of learning content, on whatever level of specialization or at whatever educational institution, takes place in accordance with scientifically determined principles and can be evaluated against the background of scientific criteria.

Local differences and needs can for example justify differences in the classification of learning content and it is then the task of a central curriculum institution that can conduct co-ordinated investigations, to ensure that the requirements of equal provision of education are satisfied.

In short the classification of learning content as an educational matter is too important to be left to subjective opinions and views. Guidance based on systematic investigation as effectively organized and executed by an adequately equipped central curriculum institution, can make a significant contribution to the quality of education in every educational institution in the RSA.

7.7 TEACHERS' AND THE TEACHING PROFESSION'S CONTRIBUTION TO CURRICULATING

In what is to follow it will be briefly shown how and to what extent teachers and lecturers are involved in or have a right of say regarding curriculating.

7.7.1 Pre-primary education

Pre-primary education is not compulsory and there is also no prescribed curriculum or programme. There are however departmental schools for pre-primary education, but they are largely in the hands of private initiative with departmental supervision and guidance in cases where such schools satisfy certain requirements. Many teachers are qualified but the fact that a great many are poorly qualified or unqualified, especially in the case of Non-White education, prevents the effective use of manuals or recommended programmes where they are made available.

Curriculating is, as far as pre-primary education is concerned, consequently in the hands of individual teachers.

The effectiveness of this is naturally closely dependent on the factors already mentioned above as well as on the quality of and the co-ordinated way in which guidance is offered.

When the needs of the country as a whole are viewed in this regard, one of the most important matters which comes to the fore, is the question of school readiness. In this respect a central curriculum institution can be of particular assistance in the compilation of effective manuals and programmes that can be adapted for local circumstances in co-operation with individual departments of education. Assistance can also be rendered in the presentation of programmes for in-service training at regional educational institutions, especially in cases where the necessary personnel and facilities are lacking to guide teachers to independent and effective curriculating.

The promotion of the school readiness of all children is a national task and a central curriculum institution is the obvious choice for initiating, co-ordinating and disseminating the content so that teachers who are involved can undertake the further curriculating in a meaningful manner.

7.7.2 Primary and secondary education

The involvement of teachers in this respect is vested primarily in the curriculating they undertake in preparing for lessons or lesson units. Some teachers are also involved in the compilation of schemes of work for the school as these schemes are compiled with reference to syllabi, textbooks, departmental requirements and other related factors.

Some teachers write textbooks, others again have a share in the drawing up of manuals (study committees or subject committees) and some represent teacher associations on syllabus committees.

In some departments of education teachers are involved in the planning and execution of curriculum projects where proposed innovation or improvement of content is tested in schools selected for this purpose. As far as the TED is concerned, a group of teachers from participating schools

form a work group under the guidance of the inspector of education as chairman. These teachers and their colleagues at the participating schools contribute to the planning of and are regularly consulted during the course of the project.

Teachers can exercise influence on curriculating through the teacher associations' interest groups in that significant proposals can be made by the association and can be submitted to the department for consideration and possible implementation.

If the extent to which teachers can contribute is compared to the contribution made by teachers in departments of education abroad (USA, England, Scotland, the Netherlands), it is evident that the practising teacher in the RSA has very little say in curriculum matters.

7.7.3 Technical colleges

The organized teaching profession (teachers or lecturers) draws up syllabi for tertiary apprentice courses. Sometimes expert lecturers are seconded. The department expects that syllabi should be drawn up in co-operation with employers.

7.7.4 Technikons

A particular technikon accepts the responsibility of drawing up or revising the curriculum and syllabi for a certain course. This is done in co-operation with the employers and other interested parties. After this has been done the proposals are circulated to the other technikons for comments and as soos as consensus has been reached they are submitted to the association of Technikons for further handling. It therefore appears that lecturers have a say in the initial compilation and revision (advisory committee) of curricula and syllabi.

7.7.5 Colleges of education

Lecturers from colleges of education (and where applicable in co-operation with lecturers from universities) are involved in the drawing up or revision of syllabi for subjects.

7.7.6 Universities

The syllabus of a course in a particular subject is submitted to the faculty council by the department in which the subject is offered. Lecturers in a department are definitely involved in this. Moreover, the lecturer at a university enjoys considerable freedom in the curriculating he undertakes in respect of his area of presentation, but within the theme laid down for the course or subject.

7.7.7 Summary

From the foregoing it is clear that teachers and lecturers have a lesser or greater say in curriculating in respect of their subject areas, that they enjoy a reasonable degree of freedom in curriculating for lessons, lesson units or lectures, but that they do not have or do not exercise the same say that their colleagues in many other countries have.

This say is necessary as no innovation or improvement will succeed without the wholehearted co-operation of the teacher. A step in this direction can be to involve teachers in committees that are responsible for the planning and execution of centrally co-ordinated curriculum projects.

Experience (inter alia in the TED) shows that this form of participation and say is one of the best forms of in-service training. A large-scale involvement in the experimental implementation of new or revised syllabi where an increasing number of teachers can have a say in the process of development is perhaps the answer to the question regarding strategies for making innovation viable.

7.8 RESEARCH SUPPORT

The point of departure in this respect is that proposals for changes, improvement or innovation of organized, formal learning content (curriculum and syllabi) should be based on scientific investigation and not on subjective opinions or biased experience. If curriculum development is not supported by the results of systematic testing, the curriculum designer can submit to pressure or to injudicious persuasion. What is once written in a curriculum, with time becomes fixed and rectification is very difficult.

A second point of departure in this respect is that the curriculum should continually be evaluated with a view to possible innovation as a result of the rapid succession of changes in society, technology, knowledge, new skills and labour needs, to name but a few. "The curriculum must continually evolve, to keep up with the changes in society" (Nisbet, 1980, 3). This author further points to the fact that over the years three patterns of curriculum innovation are to be distinguished:

A. Independent curriculum projects without any co-ordination.

B. Formal organization of curriculum development, administered centrally and according to a co-ordinated plan.

C. A devolution from the central unit to regional or local units with support from the central unit.

In most countries research patterns A and B were found for many years, but in many cases there is now a switch to the C model. Dr Shevach Eden, well-known head of the Curriculum Centre in Jerusalem in a recent lecture (University of Pretoria, 10 March 1981) showed that a combined model that provides for all three patterns and that is mainly modelled on pattern C would probably be very effective.

The basic flaw in pattern A is the lack of co-ordination. Each group views his project as being of particular importance and schools in England for example have great difficulty in determining priorities. Lack of co-ordination hampers the identification of priorities and important matters can

easily be neglected. The advantage of this pattern however is that a project can be launched and executed quickly with the result that the outcome is available for implementation reasonably soon. It also leaves room for originality, imagination and unconventional approaches.

Research pattern B, in which case mention is made of a central curriculum institution for innovation, is found in most countries. Three particular functions usually executed by such a central unit are:

(a) the acceleration of the development process;

(b) the establishment of a channel through which funds can be made available for the establishment of an eminent professional service of high standing;

(c) the provision to the education authorities of a mechanism to control curriculum development (England, Scotland, Sweden, France).

In this respect it is interesting that Nisbet has the following to say concerning a central curriculum institution not connected to a ministry: " ... the Schools Council is a fringe body, with only limited impact on the system" (Nisbet, 1980, 8). He furthermore shows that results of work done by a central curriculum institution attached to a ministry under the supervision of a well represented advisory committee, seem to be highly acceptable. The objection that such an institution is too directly connected to the department, should be removed by establishing suitable and effective democratic institutions.

Although centrally co-ordinated curriculum development and research showed considerable success, it generally appears that little of the intended innovation really came to pass (compare Walters, 1980, p. 10). Furthermore Nisbet comes to the following important conclusion in this respect that " ... diffusion, in-service training and support services to teachers - had been given little attention" (Nisbet, 1980, p. 10). Walters subscribes to this when he maintains: "I would like to suggest that, since the teachers hold the key, curriculum innovation should be focused on

the teachers and on teacher training" (Walters, 1980, p. 10). Furthermore Fleurs in his report to the HSRC points to the fact that "changing the content of the curriculum has its problems, but it is changing the methods which has proven almost impossible. And it is in the methods that real changes must occur if innovation, in a fundamental sense, is to succeed" (Fleurs, 1981, p. 8).

Innovation is in reality dependent on the extent to which the teachers concerned appreciate the problem and realize the need, but very few teachers have the time or background to see their daily work in perspective in the light of the latest literature and findings.

The flaw in patterns A and B boils down to the fact that the development is initiated from above: "top-down growth does not work, one has to start from the ground roots" (Nisbet, 1980, p. 11).

The foregoing insights led to pattern C, the "user-centred model" or the model where there is interaction between central curriculators and local executors. This model concurs largely with what Havelock typifies as the "problem-solving model" and the "social interaction model". In the case of these models an attempt is made to change the attitude and action of teachers through significant participation.

In the case of this model it is the task of the central curriculum institution to focus the attention on the important questions and to get the ball rolling by arranging discussions to be held in an atmosphere of understanding and tolerance. The institution could draw up a well prepared work document for handling at such a meeting.

The development is then launched while provision is made for the inclusion of personnel in education centres and the inspectorate responsible for the subjects.

In the case of pattern (C) however one should guard against overemphasising matters of little importance.

In this respect one could also mention that the effective updating of the curriculum requires a combination of the three models with the requirement that "curriculum development must be planned on the firm basis of research and trials in schools (the empirical - rational strategy)" (Nisbet, 1980, p. 14).

Referring to the position in the RSA Nisbet, on the grounds of his intensive and long continued experience in this field, maintains that "some kind of curriculum development organisation seems to me to be necessary" (Nisbet, 1980, p. 14). He prefers a network of well-equipped local centres. Such a network will, especially when one thinks in terms of the particular needs in some departments of education, only be effective if strong guidance emanates from a central curriculum institution which can guarantee the scientific character and can co-ordinate and help effectively where and as circumstances require.

In an interview with Dr Shevach Eden during his visit to the TED (March 1981) he pointed out, on the strength of his experience and close contact with other countries, that the effectivity of a central curriculum institution which co-ordinates, guides and personally investigates, depends on co-operation with local or regional curriculum units at universities, colleges or institutes. In this respect it is also illuminating to study the flow chart drawn by Prof. A Noble which appeared in his report to the HSRC wherein the close co-operation between a central unit and regional units is strongly emphasized. After discussions with Dr Eden he agreed that a central institution could possibly render a particular service in the RSA especially to those departments of education where, owing to other urgent priorities, less attention can be given to scientific curriculum development and research with a view to adaptation, improvement and innovation.

In the majority of reports received from work groups attached to this committee, the necessity of a central curriculum institution is advocated to render equivalent curriculum development service to all departments and institutions of education in the RSA. In this regard attention is drawn to the advantages of, for example, preservation of standards through the implementation of common core syllabi which could, through a suitable

system of examination, contribute to the equivalence of certificates.

Thus it appears that curriculum research and development can effectively be executed as a necessary educational ancillary service through a system of central guidance and co-ordination handled by a well-equipped (personnel, facilities, media) national curriculum section, centre or institute in co-operation with regional centres, for example universities, colleges or regional departments of education, with education centres as dissemination points.

7.9 DISSEMINATION OF CURRICULUM INFORMATION

Dissemination, that is to say the spreading or introduction of the thoughts and concepts included in curriculum improvement or innovation as aspects of curriculum development, is one of the key activities in the whole process of curriculating. Several writers show that innovation often fails as a result of faulty dissemination: "Some new institutional framework is apparently necessary, capable of providing close in-service support for teachers and easy avenues of communication with other members of the profession." (Fleurs, 1981, p. 11)

Nisbet points out that great effort is put into the design of new syllabi, but that "diffusion, in-service training and support services to teachers had been given little attention" (Nisbet, 1980, p. 10).

It therefore appears necessary that an effective dissemination strategy be built into a justifiable curriculating model from the very start.

This theme will therefore be dealt with under three headings, namely traditional dissemination, modern dissemination and a possible strategy for the RSA.

7.9.1 Traditional dissemination procedures

This matter can be summarized by focusing the attention on a few clearly distinguishable aspects of the different methods followed in respect of dissemination:

- The distribution of syllabi
- The drafting and issuing of manuals
- The offering of courses
- The production of textbooks
- The presentation of lectures
- The visits by inspectors.

7.9.2 Modern dissemination procedures

The traditional procedures are still continued, but with a difference in emphasis. The emphasis has shifted to a more active participation by teachers in committees, in the planning and execution of trial curriculum projects and in workshop meetings. Here the teachers aid and support one another, inter alia in the interpretation of innovation and in the joint production of media suitable for implementation in the light of proposed innovation. In this respect particular mention can be made of the activity taking place at teacher centres like those found in England. In this country the institution originated in a natural way and later became a part of education. These teacher centres form the central pivot of teacher activities concerned with dissemination, in-service traning and orientation. The idea of establishing teacher centres also took root in other countries, but they soon realized that adaptation was necessary. In this manner institutions such as pedagogic centres (Israel and the Netherlands), curriculum centres and curriculum development centres (USA) are found in other countries to render services that correspond to those of the teacher centres in England.

These centres satisfy the strongly felt need for guidance, orientation, clarification, understanding and aid in respect of the interpretation and implementation of the syllabi.

A good illustration for the implementation of this idea is to be found in Israel where there are at present 32 regional units, called pedagogical centres, in a geographically small country with a population of between

four and five million people. These centres are jointly maintained by the ministry of education and the regional education authorities. The latter provide the terrain, furnishings, maintenance, clerical personnel and current expenditure. The ministry's national pedagogical centre provides the professional personnel, supervision, guidance and media. Important for the RSA situation is the arrangement that the extent of aid and support which regional centres receive from the central institution and also the degree of control over the regional centre is not identical in each case, but is dependent on the particular circumstances.

An interesting arrangement is that each pedagogical centre is under the control of a local board of control wherein the regional inspectors are represented.

Pedagogical centres in Israel make arrangements for the following:

(a) a loan service (media)

(b) in-service training (discussions, courses, demonstrations)

(c) a library and reading rooms

(d) technical services (photography, copying of documents and magnetic tapes, transparencies, etc.).

7.9.3 A dissemination model for the RSA

The requirements for admission to a university or the qualifications needed for a particular post should inevitably be the same for everyone. The RSA's professional world is cast in a Western mould and it sets the requirements of an advanced Western culture. Growth in many areas in the country has created manpower needs which cannot adequately be provided for from the ranks of the White population. This means that possibilities should be created, and have already been created for the inclusion of adequately qualified Non-Whites to contribute towards the economic development of the RSA.

Training and education for Non-Whites is becoming a matter of greater urgency. On the other hand there is also strong impetus and motivation for the acceleration of literacy and numeracy within the total population. The key figure in the formal situation still irrefutably remains the teacher. In White ranks there are shortages, but as far as Non-White education is concerned, the situation is alarming because of the great number of children, the lack of teachers, the great number of poorly qualified or unqualified teachers and the dire need for fully trained teachers. The latter especially creates a problem as most subjects in the senior secondary phase of, for example, education for Blacks are taken at the higher grade.

The common problem that can be identified here in respect of the RSA as a whole is the inadequate qualifications of individual teachers in the subject or subjects for which they are responsible. This problem is not equally serious in all departments of education, but seen as a whole it is one which should receive immediate attention.

Further and in-service training are long-term and expensive undertakings and only a limited number of teachers can effectively be reached.

The same applies to educational technology: the masses can be reached, but the basic infrastructure for the effective application of sophisticated technology does not exist in the very areas where the need is greatest. Hence the dependence on conventional media, for example printed matter.

Something that can be considered is the establishment of a number of regional centres each under the joint control of a central ministry of education and a particular department of education. These centres should be established in accordance with need and circumstances and provision should, inter alia be made for curricular dissemination services as described in the previous paragraph (for example the Israeli model). The John Taylor Education Centre in Leeds, England, already visited by personnel from different departments of education is an excellent example of a dynamic and functional centre.

Centres such as envisaged here and which for the present could be housed in existing buildings to accelerate establishment and functioning can

effectively be supplied professionally by a national curriculum centre/ section/institute which can offer expert services, guidance and aid on a co-ordinated basis.

This brings the dissemination of aid, improvement and innovation closer to the actual practice (compare in this respect the existence of 20 regional centres in Texas, USA). To be really significant however, a network of local centres should be established by the responsible departments of education (in the case of some departments there are already centres of such a nature) to be included in the jointly controlled regional centres.

To conduct these joint regional centres economically other necessary educational services can also be offered at them. Here one thinks for example of adult education and compensatory education.

7.9.4 Summary

Dissemination of aid, improvement and innovation in the interpretation and implementation of curriculum content as worded in official documents (syllabi), has long been an institutionalized service. In the case of traditional models the participation of teachers consisted for the greater part in passive listening, whereas the modern view stresses the active participation of teachers in the different dissemination processes: discussion, joint tackling of projects, handling of media and the forming of active workshops. These activities are made possible in centres adapted for the purpose (teacher and pedagogic centres) where in time many more services will effectively be made available.

The vastness of the RSA, the sparse distribution of the population over vast areas, the differences in culture and educational needs of various groups within the country, and many other factors, necessitate a unique strategy for the essential dissemination of aid, improvement or innovation. Co-ordination, for example, is necessary, equal services should increasingly be readily available to everyone, group needs should receive attention, etc.

Dissemination along the channels of a co-ordinated network of local and regional centres, where the latter are operated and controlled profes-

sionally according to need and circumstances by a national centre, is essential in view of the urgent need for aid and guidance.

Tasks such as these, but also those of a much more complex nature, should however be executed within an effective and functional infrastructure, which, inter alia, provides for the necessary facilities and organized handling to satisfy in some degree the demand for equal provision of education.

The foregoing based on practices abroad, is a possibility for overcoming the fundamental problem of effective dissemination as a step in the direction of equal provision of education.

CHAPTER 8

FINDINGS REGARDING THE EXISTING CURRICULUM PRACTICE IN THE RSA

The findings recorded here are based on research done by a great number of co-workers and represent a summary of divergent views.

8.1 IGNORANCE REGARDING CURRICULUM THEORY AND PRACTICE

The work committee found that there is still a great measure of ignorance regarding curriculating possibilities and problems, including curriculating functions and how they should be carried out.

8.2 THE FRAGMENTATION OF CURRICULUM SERVICES

Another problem identified is that of the fragmentation of curriculum services. These services are provided inter alia by the Department of National Education, the provincial authorities, the Department of Education and Training, the Department of Internal Affairs (Indian and Coloured Affairs), the Department of Manpower, the HSRC, the South African Defence Force, the technikons, the universities, the colleges of education, state and semi-state institutions and corporations and many more.

8.3 TENDENCY TOWARDS BUREAUCRATIZATION

In many cases a strong tendency was found towards bureaucratization in respect of curriculum evaluation and curriculum innovation. In one system the bureaucratization in co-ordination is such that proposals for improvement take years to emerge in practice.

8.4 PROBLEMS REGARDING CO-ORDINATION IN CURRICULATING

Effective and functional co-ordination is obviously a fundamental problem in a system where curriculating is attempted individually by a great number of departments and institutions and with a lesser or greater degree of scientific character. The co-ordination that does exist was created on

administrative grounds and persons with an administrative function also carry out curriculum co-ordination functions.

8.5 FEW CURRICULUM SPECIALISTS

It has become clear that there are not many people in the RSA who have specialized in the field of curriculating. Consequently it would not be advisable to decide on a short or medium-term curriculating policy built on the services of a great many specialists in this field.

8.6 ADMINISTRATIVE DECISIONS REGARDING CURRICULUM MATTERS

The research that has been done shows that many persons make (must make) decisions or give advice, not on the strength of their grounding in curriculum matters, but merely on the strength of their administrative posts to which curriculum functions have been added.

A sound curriculum policy should be structured so that curriculum decisions are based on research done by persons with the necessary expertise in such matters.

8.7 INSIGNIFICANT CONTRIBUTION BY TEACHERS TO CURRICULATING ON THE MESO AND MACRO LEVEL

Teacher participation in curriculum matters (design, evaluation, and development) is extremely limited. In cases where teachers do participate their role is limited to expert advice rather than participation in basic and applied research. A curriculum policy should be structured in such a way that teachers can contribute significantly to the whole process of curriculating.

8.8 CURRICULATING INADEQUATELY SUPPORTED BY RESEARCH

Throughout the world it is realized that dicisions in respect of curriculum innovation should be based on reliable research. Research institutions are permitted to do research in schools (in deliberation with the authorities) and to pass the results on to the curriculators. From the different

reports received it appears, however, that the recommendations are based on the personal preferences and individual experiences of the persons who make the recommendations. Attention will have to be given to the creation of an infrastructure for curriculum research which can serve as a basis for decision-making regarding curriculum innovation.

8.9 CO-ORDINATION OF CURRICULUM SERVICES, ESPECIALLY EXAMINATION

Curriculum design, evaluation and development should be co-ordinated with related services such as evaluation, examination, certification and educational technology. It appears that the said co-ordination of curriculum services is problematic in a set-up where so many people, institutions and departments are responsible for curriculating and examination.

8.10 CONTROL OVER EQUAL QUALITY EDUCATION (PROVISION OF EDUCATION) IMPOSSIBLE

It is impossible to control equal quality education (provision of education) in such a strongly deversified set-up. If the government insists on equal quality of education (provision of education) for everyone, it should be possible to exercise control in respect of content, facilities and standards (to name but a few).

8.11 PROBLEMS FOR THE ORGANIZED PROFESSION AND THE JMB

It was stated that curriculum expertise is still limited in the RSA. A strongly decentralized set-up places a burden on the organized profession to obtain sufficient people to promote the interests of the members in so many points. JMB members often must sit on the panels of different departments to represent the JMB. A policy of predominantly centralized curriculum development with decentralized continuation would considerably alleviate the burden on the organized profession and the JMB.

8.12 FRAGMENTED BUDGET

Budgeting for the items "education" and "training" takes place under different headings in at least nine government departments. It would accordingly be rational to view the education needs of the country and to budget for them at one point. Within this estimate budgeting will then also be done for curriculum services FOR THE COUNTRY.

8.13 TRAINING FUNCTION IN CURRICULATING

Curriculating and training go hand in hand. If curriculating services are planned centrally and are operationalized on the regional and local levels, the necessary training services which are coupled with the implementation of a curriculum can be planned simultaneously. On all these levels an infrastructure can be established for training. From the reports it appears that the necessary training services cannot be rendered by the different institutions and departments.

8.14 LACK OF SURVEY

From the reports it appears that the furtherance of curriculating by different people, institutions and departments results in no-one having an overall view of the whole field. Each person devotes himself to what he thinks is necessary for his own area while important curriculating areas are neglected.

8.15 DISSEMINATION AS A PROBLEM

Literature clearly indicates that the dissemination of curricula (curriculum sections, units, modules) is a fundamental problem in many countries. In the RSA the dissemination of curricula (curriculum information) is an even greater problem. Dissemination should be included in a total curriculum strategy and right from the start ways and means should be devised to promote the distribution of curriculum information.

8.16 THE PROBLEM OF DIFFERENTIATION

The integrated curriculum (for example 'main streaming') is seized upon in many countries as the ideal educational model. Nowhere however is proof to be found that integrated curricula are the answer to this problem. Research made it clear that a national policy of differentiated curricula should be formulated. This differentiation will differ considerably from the system of differentiation in use at present. Differentiation should for example also be planned in respect of an open system (complementary to the formal systems) and should also serve non-formal education and training. In order that differentiation should proceed significantly and in a co-ordinated way, it is obvious that planning and co-ordination for differentiated curricula should take place from a central curriculating institution.

8.17 THE INFLUENCE OF UNIVERSITY ADMISSION ON EDUCATION

University admission remains the dominant norm for all education in the RSA. The roots of this phenomenon can be traced to the dual function of the matriculation examination which leads to a school-leaving certificate as well as to admission to university. Because it also grants admission to university, the JMB is directly involved. The involvement extends farther than just the matriculation examination. All the other standards are bound to or influenced by subject sets, curricula, examination requirements, et cetera, as required by the JMB for matriculation.

Even courses that are not geared to university admission, are simplified, but still carry the hallmark of the university admission courses. In order to design school courses initially for school-leaving examinations consideration should be given to the possibility of establishing an admission course (admission year) for which there could be specially curriculated with a view to university admission. The JMB will then only be involved in the courses and examinations taken during the university admission year. (Note: Owing to the phenomenal expansion which is in store for the education of all population groups, it is surely desirable that the JMB's role be limited to one year of study. In this way the JMB can still perform its original function.)

8.18 THE TEACHER'S APPROACH TO THE SYLLABUS

From contributions that were received it is clear that teachers in general are bound to the syllabus and do not (not even in cases where they disagree with what is included in the syllabus) easily deviate from it. The problem becomes worse if a textbook is available which has been drawn up according to the syllabus. In such a case the textbook is followed slavishly. A great deal of attention will thus have to be given to the quality of syllabi. Curriculum experts in this case think in terms of making subject curricula available rather than just subject syllabi. This means that the whole spectrum of curriculating, namely analysis, objectives, learning experiences, guidelines, learning opportunities and evaluation should be justified and made available in a unitary programme. By enhancing the quality of the work document the quality of the instruction can be improved.

8.19 INSTRUCTION MATERIALS, LEARNING MATERIALS, TEXTBOOKS, CURRICULUM PACKAGES

The problem of dissemination (the distribution and making available of curricula) is hampered considerably when the accompanying material, media and in particular, textbooks are not made available simultaneously. In certain cases a textbook is published which deals with (interprets) the curriculum (subject curriculum, syllabus) in such a way that it differs from the curriculum writers' intention. The influence of such a textbook (especially in the cases of less trained teachers) is phenomenal and its use can neutralize the intended (good) effect of the subject curriculum. Therefore a decision will also have to be made regarding the production of school textbooks and accompanying curriculum material simultaneously with the development of relevant curricula. Such material which is developed by persons knowledgeable in the curriculum field should make a positive contribution to the implementation of the relevant curriculum with a resultant improvement in education. Whether the free market will have the right to produce and deal in such material should receive separate consideration.

8.20 LIMITED DECISION-MAKING POWERS AND SAY BY THE PRINCIPAL AND THE TEACHER

In comparison with principals and teachers in a country such as England and parts of the USA, principals and teachers in the RSA perform a very limited curriculum function. This is partly due to do the highly centralized and closed set-up in the RSA with the resultant removal of curriculating decision-making from the local level. For this reason principals and teachers are generally not well informed about curriculum matters. The problematic aspects of curriculating have, to date, not been pertinently dealt with in teacher training courses. The rise of education centres (where complete curriculum services are provided) on the request of teachers supplies ample proof of the necessity of curriculum aid and the need for appropriate curriculating by the teachers.

8.21 RESTRICTIONS ON RESEARCH AND EXPERIMENTATION

Restrictions on research and experimentation have developed in such a way in the RSA that the attitude of the principal and teachers is generally one of scepticism regarding any form of experimentation. As a result of this attitude the existing practice has never really been investigated and has lapsed into traditionalism coupled with regulations. Even in cases where experimentation is still done (for example in the case of a syllabus evaluation investigation tackled by the TED and the CHE), the limiting influence excercised by the JMB is such that the research plan does not always satisfy the requirements for scientific research, or does not even leave the investigators room to make investigations in the precise field which they identified as their field of investigation.

The problem regarding research and experimentation would have been quite different if the JMB's influence had a bearing on university admission only and not on the senior certificate examination (school-leaving certificate). This could be achieved if provision were made for an additional school year for university admission (examination under the jurisdiction of the JMB).

8.22 BASIC EDUCATION

When one thinks in terms of education for everyone the question arises: What is the minimum education that can be given to a person (child or adult) in order that he can meaningfully participate in the institutionalized society and general culture. This problem of minimum basic instruction should be coupled with free education (for children and adults). Whether free education will also be provided beyond this level of basic education is a matter which should be judged on individual merit. As far as curriculating is concerned it is important that provision should be made for basic education (minimum schooling) for which curriculating will have to take place on individual merit.

8.23 CURRICULATING BASED ON SOUND EDUCATION PRINCIPLES

The investigation showed that in the present-day practice curriculating comprises different intentions, philosophies of life and scientific and human views. The curriculum with its basic function of selection and orderly arrangement of learning content should always reflect the philosophies and values of the people for whom it is intended. If curriculating is to take place for the country as a whole it should therefore be based on a set of education principles that would enjoy the widest possible acceptance.

8.24 NORMALIZATION OF MARKS

It was found that in some departments use is made of standard norms, especially in respect of the matriculation and Std 10 examinations. The normalization of marks at present is based on different norms, (different for the different departments) so that it is not possible to determine exact standards or even to compare standards. Certification is also problemistic in the light of the said practice of normalizing marks.

8.25 MANUALS FOR PRE-PRIMARY EDUCATION (PRE-BASIC EDUCATION)

Although no formal curriculum is advocated for pre-primary education, the finding of the Work Committee: Curriculum development is that comprehen-

sive manuals should be made available to all centres where pre-primary education is offered.

8.26 SCHOOL READINESS PROGRAMMES FOR EVERYONE

The work committee found that at the commencement of schooling many children are not ready to participate to good effect in the basic curriculum activities. High priority should consequently be given to the introduction of programmes whereby children throughout the country can be prepared in the best possible way to derive most benefit from the curriculum content when they enter school.

8.27 CO-ORDINATING FUNCTIONS IN RESPECT OF TERTIARY INSTITUTIONS OF EDUCATION AND NON-FORMAL EDUCATION

The extent of the need for curriculum services experienced by universities, technikons, colleges of education as well as all sectors involved in non-formal education, could result in the establishment of a central service which could be consulted on a voluntary basis on curriculum matters (for example planning of courses).

8.28 THE INVOLVEMENT OF UNIVERSITIES AND OTHER RESEARCH INSTITUTIONS

This committee interprets Principle 11 as saying that universities and other research institutions should be involved in functional research but that this does not imply any restriction on their research.

CHAPTER 9

THE WORK COMMITTEE'S RECOMMENDATIONS IN RESPECT OF CURRICULATING

9.1 GENERAL PRINCIPLES

The following principles were accepted by the Work Committee: Curriculum development and the recommendations which are made, should be evaluated in the light of these principles.

9.1.1 Substantiated theory

It is agreed that curriculum decision-making will be based on a substantiated theory.

9.1.2 Co-ordinated curriculating

The work committee maintains that curriculating in the RSA should take place on a co-ordinated basis and that all interested parties should make a contribution toward curriculum decision-making.

9.1.3 Continuous attention

The assumption is made that curriculating will continually receive attention. Curriculum design, evaluation, development and dissemination will be tackled as a continuous process.

9.1.4 An individual style for the RSA

Curriculating in the RSA can take note of the many curriculum models in the world, but should be developed in South Africa according to an individual style. Especially the emphasis placed on equal provision in a system where a great variety has to be accomodated, is of great importance. The whole principle of differentiated curricula should be worked out with great care.

9.1.5 Research support

The recommendations are made on the understanding that co-ordinated research will be instituted all along the line of curriculating. Each of the recommendations should be interpreted in the light of research support.

9.1.6 Centralization

The work committee is of the opinion that, with due allowance for existing practices, there should be a move towards the centralization of curriculum activities with regional decentralization.

9.1.7 Society's needs and demands

Curriculating agents should take note of the needs and demands of society and should curriculate to provide for such needs within the scope and limitations of the determinants.

9.1.8 Democratization and right of participation

The work committee is of the opinion that users of the curriculum have the right to significant participation in the curriculum design in which they are involved. A marked democratization of the curriculum practice is accepted in principle, especially in respect of the special needs of communities who up to now have not yet stated their distinctive educational needs.

9.2 RECOMMENDATIONS

In the light of the findings of this investigation it is recommended

9.2.1 that a South African service for curriculating (curriculum development and research) be established;

9.2.2 that the service be housed in a suitable place so that communication (transport and connections) with education and training in the country can progress effectively;

9.2.3 that the proposed service will provide curricular services and advice to all institutions that offer education and training (formal, non-formal, continuing, adult, compensatory, et cetera) and will also, with the co-operation of the above-mentioned institutions, undertake the production of tested subject curriculum kits;

9.2.4 that an effective infrastructure, including physical facilities (media, vehicles, buildings) and an administrative and professional section, be established for the service;

9.2.5 that the highest priority be given to the training of experienced people as professional curriculum experts;

9.2.6 that planning should go ahead for the future housing of the proposed service and other related services in one building with a view to close and compulsory co-operation (educational technology, unity in respect of examinations, et cetera);

9.2.7 that present-day curriculum practices be studied and that procedures be worked out for the co-ordinated compilation of syllabi, courses and curricula wherewith the curriculum services (testing, evaluation) of the proposed service should be integrated;

9.2.8 that recommendations for the adaptation, improvement or innovation of syllabi, courses and curricula be motivated by, inter alia, results of scientific investigation;

9.2.9 that the proposed service should develop a justifiable model for operationalization in accordance with the accepted principles for the provision of education.
Furthermore

- to render curriculum services
- to integrate dissemination channels and facilities for regional and local centres
- to bring about co-operation and co-ordination with insti-

tutions in respect of educational and in-service training, control of external examinations, et cetera;

9.2.10 that regional curriculum centres should, where necessary, be established under the joint control of and be financed by the central and regional authority (for example a ministry) to serve as a dissemination, in-service training, demonstration, conference centre for a particular area and education authority;

9.2.11 that local centres (for example teacher centres) under the control of regional (for example provincial) education authorities with participation by the profession be integrated with regional curriculum centres to carry the dissemination of curriculating services into practice;

9.2.12 that the proposed service should function under the guidance and supervision of a wide representative advisory committee that reports to the central authority and/or advisory body;

9.2.13 that, where significant, sections of the proposed service should function under the guidance and supervision of sufficient representative committees (one for example in each subject group such as the Physical Sciences);

9.2.14 that a formal survey of the present infrastructure for curriculating be made as soon as possible. (It will be important to identify the research potential available in the departments of education, universities, colleges of education, technikons and elsewhere with a view to effective integration).

Notes

Matters such as the differentiated provision of education, examinations, certificates, admission requirements, edu-

cation phases, management structures and the like are hereby referred to the Work Committee: Education system planning for further attention.

9.3 ILLUSTRATION OF THE POSSIBLE FUNCTIONS OF A SOUTH AFRICAN SERVICE FOR CURRICULATING

The functions of such a South African service for curriculating include the following:

9.3.1 The development of theoretical foundations for curriculating;

9.3.2 co-ordination of all curriculum activities in the RSA;

9.3.3 continued and continual attention to curriculum design, evaluation, development and dissemination;

9.3.4 the development of a model for curriculum provision unique to the situation in the RSA;

9.3.5 the initiation, execution and co-ordination of research in support of curriculum development and decision making;

9.3.6 continuous investigation, taking into account the needs and requirements of the

- individual
- society
- trade, commerce and industry

in respect of curriculum provision for formal and non-formal education;

9.3.7 the establishment of channels for representation and democratization by all interested curriculum users.

9.4 ADVANTAGES OF A CENTRAL SERVICE

Many of the problems in respect of curriculum provision in the RSA can be met by the proposed central institution with regional extension, for example

9.4.1 curriculum expertise can be concentrated and used from one central point and curriculating can be based on sound curriculum principles;

9.4.2 curriculum services can be undertaken by a single body with provision for representation by all parties concerned;

9.4.3 prolixity in respect of curriculating procedures can be restricted to a minimum;

9.4.4 financing of curriculum services for the RSA can be managed under a single budget;

9.4.5 by designing and making available suitable in-service training courses (as regards the content);

9.4.6 by surveying the entire area;

9.4.7 by developing and providing differentiated curricula paying special attention to special needs;

9.4.8 by investigating the influence of the university admission examination on all curricula and by making substantiated recommendations with a view to courses that are not directed to university admission;

9.4.9 by developing complete subject curricula (instead of just syllabi) and by making these available to education institutions;

9.4.10 by developing complete subject packages (curriculum kits) including material that can be used for the production of manuals and guides;

9.4.11 by establishing channels for participation in curriculum development by principals, teachers and lecturers;

9.4.12 the research brief of such a central institution can lead to the removal of many of the restrictions on the execution of research (grants, integration of schools);

9.4.13 the need for basic minimum education can be investigated and planned for centrally;

9.4.14 curriculum planning by a national institution can be based on the principles for education as drawn up by the investigation into education;

9.4.15 the effective application of standard norms for the matriculation examination for the whole RSA can be investigated in co-operation with the JMB.

9.5 SCHEMATIC REPRESENTATION

The following three diagrams give an indication of the functioning and organizational structure for and of the proposed South African service for curriculum development and research.

In paragraph 10.5.2 which follows the diagrams, short explanations are given of the diagrams.

9.5.1 The diagrams

Diagram 2

ILLUSTRATION OF AN ADMINISTRATIVE STRUCTURE FOR CENTRAL, REGIONAL AND LOCAL CURRICULUM DESIGN, DEVELOPMENT AND EVALUATION

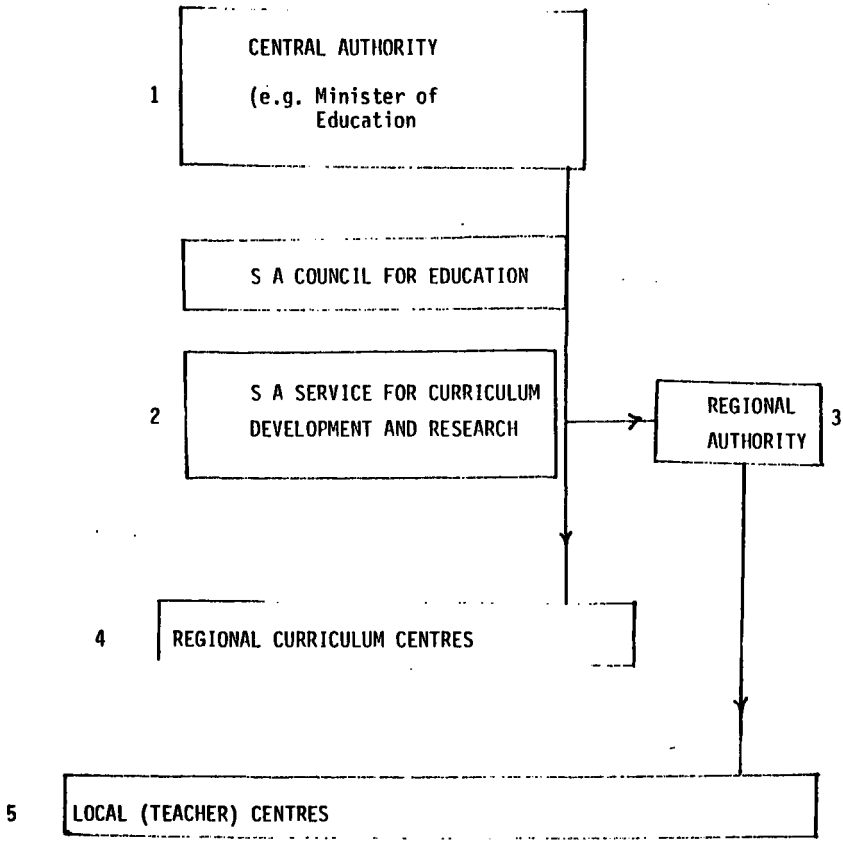
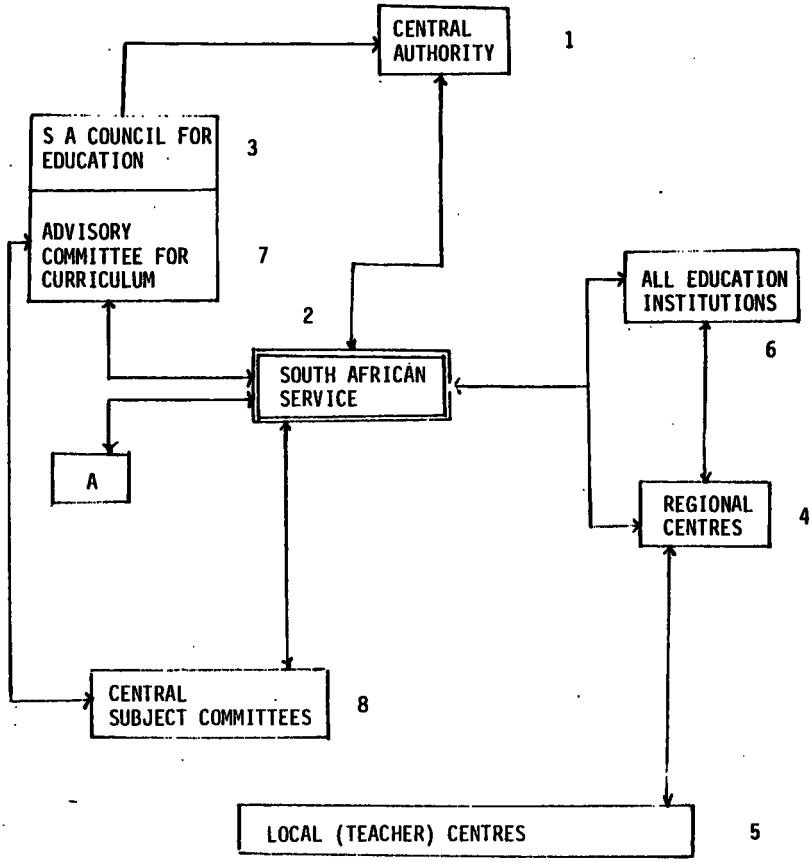


Diagram 3

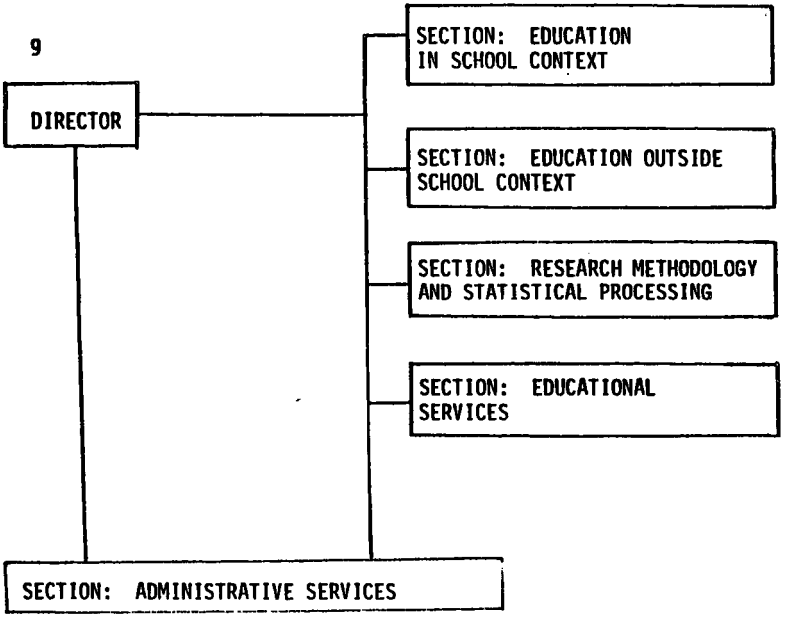
FLOW CHART ILLUSTRATING THE CONCATENATION OF THE PROPOSED SOUTH AFRICAN SERVICE FOR CURRICULUM DEVELOPMENT AND RESEARCH



A: Co-operation with institutions such as those for educational technology, examination and training.

Diagram 4

AN ILLUSTRATION OF THE COMPOSITION OF THE PROPOSED SOUTH AFRICAN SERVICE FOR CURRICULUM DEVELOPMENT AND RESEARCH



9.5.2 Elucidation of diagrams 2,3 and 4

The numbers beside the squares on the diagram refer to the explanatory paragraphs that follow.

1. CENTRAL AUTHORITY

The proposed national service for curriculum development and research will organizationally, financially and administratively be integrated with a central education control institution (for example with a Ministry through a national council for education).

2. SOUTH AFRICAN SERVICE

The professional personnel of the proposed South African service for curriculum development and research will perform different activities for the RSA relating to

- curriculum design
- curriculum development
- curriculum evaluation
- curriculum research.

3. REGIONAL AUTHORITY

Local centres will be under the control of the education institution(s) controlling education in the area and will serve the educational institutions under its jurisdiction.

The establishment, distribution and functioning of such centres should be of such a nature that equivalent curricular information and services can be offered to all teachers.

4. REGIONAL CURRICULUM CENTRES

The establishment of well-equipped and well-placed regional centres is essential for making availalbe curriculum information and expertise (dissemination), for proper feedback and communication from any sector of education and for regional rendering of curricular services (demonstration, in-service training, discussions, et cetera). These centres should in part be supported by the central authority and in part by the local (regional) authority. The services rendered, should be equivalent.

5. LOCAL CENTRES

These will comprise centres such as the well-known teacher centres (England) that are found in many countries and also in the RSA in an adapted form. The centres should be functionally integrated with a regional centre so that dissemination of curriculum information and the feedback of information regarding practical experience can proceed without problems and with little loss of time to the advantage of all teachers. Local centres will also be the gathering place for groups engaged in subject research projects initiated by the national centre.

6. EDUCATION INSTITUTIONS

Education institutions (universities, departments of education, colleges, technikons and private institutions) will be able to obtain services either at regional curriculum centres or directly from the national centre.

7. ADVISORY COMMITTEE

This widely representative committee will supervise, plan comprehensively, consider reports and make recommendations in respect of the activities of the institution for curriculum development and research and the activities of the various central subject committees. The members will be people prominent in the field of education and representative of all levels of teaching and training.

8. CENTRAL SUBJECT COMMITTEES

For every group of subjects a central committee will be appointed to represent the institutions of education (schools, colleges, et cetera) that teach one or more of the subjects in the group. A central subject committee will supervise the country-wide educational interests of the subjects in the group and it will initiate research, innovation and improvement which will be planned and executed by the particular section of the national institution for curriculum development and research. The subject committees (through subcommittees) will supervise the course and progress of subject research projects and will report to the advisory committee for curriculum development and research.

9. SECTIONS OF THE SOUTH AFRICAN SERVICE

The South African service will function through its different sections of which a few are indicated in diagram 4. Sections that will possibly be added are: one for media consultation by project committees (for research) and another for the study and evaluation of pupil achievement and examination methods.

CHAPTER 10

SUMMARY

10.1 THE PRESENT CURRICULUM SITUATION IN THE RSA

In the exposition which follows a summary is given of what is done in the different departments of education in respect of the design, development and evaluation of syllabi, courses and curricula.

10.1.1 Pre-primary education

No formal syllabi or curricula exist for this level of education. It is however clear that sporadic efforts are being made to furnish teachers with guidelines for the orientation and instruction of children who attend pre-primary schools. In some departments of education the guidance is more specific and detailed and there is also a greater degree of co-ordination.

10.1.2 Primary education

As far as this level of education is concerned, curriculating has in almost all cases progressed according to traditional procedures i.e. compilation and revision of courses by committees. As far as the provincial departments of education are concerned, curriculating takes place in a co-ordinated way. As far as the other departments of education are concerned, the provincial core syllabi are taken as a point of departure for curriculating and adaptations are made to provide for individual needs.

10.1.3 Secondary education

The curricula and syllabi for secondary education are, as far as the provincial departments of education are concerned, designed and revised in a co-ordinated way. In this respect there is a fixed procedure (modus operandi) wherein provision is made inter alia for the co-ordination of the results of departmental research which can be

considered during the design or redesign of curricula. In the case of the TED the said research is executed by the curriculum section in close co-operation with departmental project and work committees under the chairmanship of the inspectors of education (academic).

The other departments of education take the core syllabi of the CHE (and the JMB where applicable) as a point of departure for the compilation or revision of their own syllabi.

These departments have observer status in the inter-departmental syllabus committees of the CHE and full membership of the joint syllabus committees of the CHE and the JMB. The representatives are however in many cases Whites. As far as research is concerned, the departments for the education of Non-Whites are to a great extent dependent on the aid of the HSRC and other institutions, in some cases from abroad, who offer and finance curriculum services (Ciskei).

In planning for the future the Department of Internal Affairs (Indian Affairs) has in view the co-ordination of curriculum development, especially at school level. In the system envisaged, a central curriculum committee, a central research team as well as teacher centres will play an important part.

As far as the curriculum for secondary education in the RSA is concerned, past experience showed that the influence of the JMB through its authority over the syllabi and curriculum (subject grouping requirements) of the senior secondary course is decisive for all education in the secondary school.

Organized curriculating in the form of, for example, the activities of inter-departmental or departmental syllabus committees, is found in all departments of education. Scientific curriculating i.e. design, development and evaluation of curricula, courses or syllabi by making use of, inter alia systematic testing procedures, is found only on a limited scale. In this respect the TED carries out the CHE instructions concerning syllabus research by undertaking research projects in some subjects.

Some departments of education point out that they do not have the necessary personnel and facilities at their disposal to do justice to the scientific improvement or innovation of syllabus and curriculum content. All the departments of education however agree that such curriculating is necessary to ensure that curriculum and syllabus content is continually evaluated, improved and innovated scientifically in the light of the requirements set by the individual, the community, the employer and continued education. This insight is neither original nor limited to the RSA. Literature on the subject stresses the necessity of curriculating and establishment of curriculum development sections, institutes or centres in many countries shows the need for co-ordination and guidance in respect of the scientific grounding of syllabus and curriculum development.

10.1.4 Vocational and tertiary education

Committees that design syllabi for use in technical colleges represent teachers and employers who have an interest in the training of artisans. The same applies to technikons, and it is evident that there is co-ordination between the different technikons insofar as curriculating is concerned.

The curricula for diploma courses and the syllabi for courses at colleges of education are drawn up by committees in which the college of education as well as the university is represented. The co-operation in this case takes place between a college of education and a particular university.

At almost all universities a form of guidance and help is available to lecturers to assist them in the design and evaluation of courses. These services are however varied in nature and content. Formal curriculum development is not yet a general feature at universities, but the task is nevertheless tackled in earnest at some universities. Inquiries show that the need for curriculum development does exist and that such development will increase. At most universities efforts are made to plan instruction more thoroughly.

In the planning of programmes, courses, curricula and syllabi at non-formal education institutions attention is given to the selection and classification of content and to the effective integration of educational

media. Where possible, personnel with teaching experience are appointed to be of assistance or even to take the lead in the designing of courses. It is evident from different inquiries that there is a need for persons or institutions that can take an expert lead in the design, implementation and evaluation of course content. Young or inexperienced lecturers have problems in interpreting syllabi due to the lack of effective manuals.

10.2 CURRICULUM PROBLEMS IDENTIFIED

10.2.1 The problem of equivalence in diversity in the provision of curricula

The problem was investigated under the following headings:

- Equivalence amidst cultural differentiation
- Equivalence amidst a variety of systems
- The difference in environmental influence among different learners
- The difference in logistic provision
- The difference in the availability of trained teachers
- Equivalence in the provision of the curriculum
- Equivalent curriculum inputs in accordance with the principles laid down for education in the RSA
- The problem of differentiation
- The accessibility of curricula to everyone
- The impossibility of a system to structure education in such a way as to achieve equal results
- A possible structure within which curricula of equal quality can be provided.

The conclusion reached is that the provision of curricula of equal quality presents an enormous challenge in a dispensation that has to make allowance for such great cultural differences in such a divergent number of systems. The whole problem of the interchange between general and particular cultural context results in special curriculating demands. It seems that the differences in the provision of funds, facilities and teachers will have to be overcome by a central administration, as it will otherwise be difficult to move closer to equality in curriculum provision.

10.2.2 Co-ordination of curriculum practice

It has been indicated that curriculating takes place in a highly decentralized way and that immense problems are consequently faced in respect of co-ordination. These co-ordination problems are even found in the sector which, according to the National Education Policy Act (Act 39 of 1967), is compelled to co-ordinate. The problem reaches farther. It includes poor co-ordination between the sectors that co-ordinate among themselves and sectors that do not co-ordinate among themselves or with the previous group. In practice there is no permanent structure for co-ordination between institutions concerned with formal schooling and those that manage non-formal schooling.

In their investigation into an acceptable system the systems committee as well as the Main Committee will have to make allowance for a co-ordinated system (permanent continuous structure) for curriculating.

10.2.3 Curriculum development principles

No comprehensive curriculum theory for the country has yet been devised (nor even for a department), consequently personal vision, philosophy and educational approaches are relied on to a great extent. Nor has any formal attempt been made to design, evaluate and develop curricula on the basis of recognized curriculum development principles.

The practice that curriculum development is attempted without the support of a wide research basis, deserves attention. This research (basic as

well as applied) should be conducted continuously and should also make provision for the needs of the curriculum user (learner, teacher, society) and translate these needs into curriculum terms. The present practice that all identifiable needs are served by a further adaptation of the existing curriculum is not a sound one.

10.2.4 Differentiated curricula

The research undertaken shows that differentiated curricula should be viewed anew to bring the provision for each learner as close as possible to his capabilities and career aspirations. The immense difference between differentiated curricula on the secondary school level and other curricula (for example in non-formal education) should urgently be investigated. To be significant, the principle of differentiation should be implemented across the whole spectrum of the provision of education.

10.2.5 Revised admission requirements

Justified curriculating (which also takes the learner's position into consideration) requires that the whole practice of admission requirements to types of education and training should be reviewed, especially as far as non-formal training is concerned.

Admission requirements should also provide for a reasonable measure of flow (coupled with the recognition of parity).

10.2.6 Evaluation, examination and certification

The first supposition made, is that evaluation is an integral part of curriculum practice and that problems are always experienced where evaluation is handled differently. Evaluation, examination and certification require the highest degree of co-ordination in any system.

The research done, clearly shows that the university admission examination should, for very good reasons, be treated independently of all other curriculating and evaluation. Another important matter in respect of evaluation is that evaluation should form a keystone for each phase that

is envisaged. Evaluation should therefore not just cut across curriculum cycle designed for another purpose, but should serve to complete a curriculum cycle.

Criterion-directed evaluation seems to be the obvious way in which parity between different practices can be established. If norm-directed evaluation is decided upon the same norm should be used throughout, otherwise employers would have no guarantee of the standards implied by certain certificates.

10.2.7 Manpower needs and training

Curriculating as a national undertaking simply must take into consideration the country's manpower and training needs. Decisions should be made regarding minimum basic education (minimum schooling, literacy and numeracy), compulsory education and free education. The principle of continuing education and training should be built into the system which is decided upon.

10.2.8 Functional curricula

It is evident that it is no longer possible (due to the influence of the university admission examination) to continue establishing curricula (compare Mathematics, languages) that are rigid in their academic approach, but that consideration should be given to functional curricula that could, in their own right, be designed within a particular course for the purpose for which they were included in the course.

10.3 DETERMINANTS FOR A CURRICULUM

Certain factors determine the compilation and implementation of any curriculum. Some of these are available manpower, the demand for education in society, the degree of knowledge, the learner's quality and capabilities, the system or structure established for curriculating, the physical provision and the funds available. The total economic position is a comprehensive determinant for curriculum provision.

A system which makes curriculum services available to everyone involved should be designed with due attention to the determinants.

Continuous research is necessary in this respect regarding all the determinants that can be employed as a source for situation analysis and the statement of objectives. The difference between syllabus evaluation investigations (as research) and curriculum evaluation (as research) lies in the fact that in curriculum evaluation it is also possible to undertake extended research in respect of the determinants for curriculating, some of which have been mentioned above.

10.4 OBJECTIVES FOR CURRICULATING

Curriculum objectives justify (mostly implicitly) matters such as the curriculum writers' idea of man (child image), their concept of what knowledge is and what its influence is, view of science, their educational approaches, their life and world views and their view of society. The objectives of curriculating is always geared to the interception and interpretation of what is worth-while (worth-while knowledge, worth-while skills and worth-while attitudes) for learners and to build them into the instructional and learning programmes so as to enable each learner to live and work in a society as a free and educated person who can make a contribution to the general welfare of the country.

The objectives are usually classified in terms of what is possible in the long term (ideals, resolutions) the medium term (that which is attainable within a course, phase, et cetera) and the short term (that which is attainable within the scope of a lesson, lecture, lesson unit). In curriculating context it is important not only to spell out curriculum objectives but also to think in terms of the learner and therefore learning objectives. At this level the multiple learning objectives make it impossible for the primary curriculum designer to expound all the possibilities and therefore the primary curriculator must at times suffice with an inventory of learning objectives which can be used by the recurriculator (person who puts the curriculum into practice) for his lesson planning and teaching activities.

A differentiated practice is advocated so as to bring about an understanding for the needs (life style et cetera) of the general learner as well as for the special learner. A matter which requires great deliberation is the fact that the person who acts on the micro-curriculation level (classroom, teaching practice, course presenter) still has enough opportunity for significant decision-making. If these persons simply have to execute decisions made by other people their practice will lose much of its dynamism.

10.5 DIFFERENTIATION IN PRACTICE

As far as education in a country such as the RSA is concerned, it is not only the difference between individuals which has to be taken into account in a system of differentiated education, but also the enormous differences in culture, language and learning readiness. Added to this is the country's increasing need for skilled and highly trained manpower for which the White population can at present hardly provide.

In a discussion of differentiated education it is necessary to define the core concepts such as differentiation, basic education, et cetera in order to promote mutual understanding and communication.

Differentiated education as found in different types of education, courses, subject sets, compulsory and optional subjects is of the utmost importance to the curriculator and some principles and points of view are thus outlined in the follwoing paragraphs:

(a) The differentiated pattern should on the one hand provide for the needs of all learners, but on the other hand for the needs of various individuals (interests and capabilities) and groups (cultural and language).

(b) Curricular differentiation, i.e. differentiation in respect of learning content, should not be based on differences in race, colour, creed or sex, but on interest, abilities and the country's needs.

(c) Curricular differentiation should be minimal in the case of primary education and requirements in respect of the curriculum (for example the number of languages that must be taken) should be the same for all.

(d) The present-day tendency towards an overwhelming academic orientation of all pupils on the secondary level should be reviewed.

(e) Evaluation methods for admission to tertiary education (and certain vocational courses) should be based on common standards for everyone.

(f) Differentiation within the curriculum should at no time lead to the learner finding himself in a dead-end course.

(g) Structures should be established within which differentiation can significantly be implemented.

From the reports of study groups the following important matters came to the fore:

(a) In designing curricula attention should be given to the special needs of environmentally impeded pupils, especially in the case of initial education.

(b) In-service training is necessary for all poorly trained or untrained teachers, but in this regard follow-up and effective dissemination are equally important.

(c) Implementation of a system of differentiated education should prevent all Std 10 pupils from completing an academically oriented curriculum which actually only has meaning for between 10 and 20 % of the pupils.

(d) In all schools instruction should for at least the first four years be given through medium of the mother tongue,

after that in an official language while a second and third language should only be introduced at the secondary school level. The option should exist to take the latter at a non-grammatical level with a view to functional command.

(e) The primary task of the secondary school should not be to train for admission to university.

(f) Experience indicates that differentiation within subjects on the higher grade (HG) and standard grade (SG) is not very successful. Each pupil tries to take as many subjects as possible on the higher grade consequently the standard on the higher grade is lowered. The standard grade should be a course in its own right.

(g) A subgroup proposed that the time devoted to a sixth subject for Std 10 should rather be used for shorter modules that are important for the pupil's future, responsible participation in the adult world (for example laws governing our everyday life: elementary private law).

(h) Investigation showed that employers would like to see a Std 8 with Mathematics and Science as subjects as a requirement for admission to apprenticeship.

(i) Technikons and universities differentiate in that the variety of degree and diploma courses offered and the nature and content of subjects (for example Mathematics for engineering students) link up with needs.

10.6 EVALUATION, EXAMINATIONS AND CERTIFICATION

The following matters were touched on in this respect:

(a) Primary education

Evaluation of pupil achievement is based on various testing methods. The

promotion of pupils is in the hands of the principals and inspectors of education. Until recently Black pupils could write an external Std 6 examination.

(b) Secondary education

Evaluation of pupil achievement is mainly done internally, but Black education has retained the Std 8 external examination owing to the value the certificate has in obtaining work.

The senior certificate examination is the final examination at the end of the secondary school course. It is based on common core syllabi and is applied individually by each department of education. Moderation is done by the JMB. A senior certificate and also a national technical certificate grant admission to a university if the JMB's requirements are satisfied (subject groupings and minimum pass requirements for subjects and total). It is this authority that the JMB has which results in its powerful influence on the content of the curriculum and syllabi.

Despite the fact that a large number of pupils satisfy the requirements for matriculation exemption, the failure rate of first-year students at universities still remains particularly high. This is an indication that this examination does not yet fully serve its purpose, but is nevertheless allowed to dominate the learning content of secondary education as a whole.

(c) Tertiary education

The emphasis in this case falls on the attainment of levels of achievement with a view to the choice of a career, preparation for a profession or admission to some or other post.

Each univeristy has its own evaluation and examination procedures. In cases where training takes place for specific professional qualifications, for example for the Higher Education Diploma, the requirements are determined or are jointly determined by professional bodies outside the university (compare also medicine, nursing and law).

Curriculum and examination requirements for colleges of education are prescribed by education departments on the basis of compliance with criteria for employment. In the case of White education arrangements are made for close co-operation between colleges and universities. This co-operation gave cause for the accreditation of lecturers by universities for degree purposes on different levels.

In technikons evaluation mainly takes place on the basis of written and practical examinations as administered under the guidance of the Department of National Education. There is increasing co-operation with universities to recognise courses.

As far as trade, industrial and vocational training is concerned, courses provided by the said departments are evaluated by external examinations. Interested organizations have a say in the matter.

Courses offered by the private sector are evaluated in various ways. Little provision has however been made for co-ordinated curriculum planning and examination in this wide sector.

From the foregoing it is evident that the present pattern of evaluation, examination and certification is very complex.

10.7 CENTRE FOR CURRICULATING

The possibility whether many of the existing flaws in respect of the scientifically justifiable curriculating (i.e. the design, development and evaluation of courses, curricula, syllabi and manuals) in the RSA can be removed by the establishment of curricular services (aid, guidance, dissemination and research) at central or regional centres, is discussed in this paragraph.

10.7.1 Curriculating procedures

In the exposition below attention is briefly given to a few curriculum centres/sections abroad.

(a) Schools Council for Curriculum and Examination, London

This independent council undertakes and co-ordinates research and development in respect of curriculum and examinations for England and also advises the ministry on policy.

- Requests for improvement or innovation usually come from the regional departments of education (LEA's).
- The key activity is the testing of improvements or innovation and the subsequent production of complete curriculum packages (kits).
- The council co-ordinates expertise in respect of curriculating.
- Dissemination or the spreading of innovation takes place at and in co-ordination with teacher centres.

(b) Project group: Syllabus development, Physical Science, Utrecht

This group, guided by one of the advisory committees for syllabus development (in the Netherlands there is one for each subject area), tests the proposed innovation during three consecutive years at an increasing number of schools.

(c) Foundation for Syllabus Development (SLO), Enschede, The Netherlands.

This Foundation is a national education aid service which co-ordinates curriculum development in the Netherlands. The SLO's activities are devided among seven departments which are each responsible for a specific subject area that conducts projects in co-operation with work groups.

(d) The Institute for the Pedagogics of the Natural Sciences (IPN), Kiel, West Germany

This Institute does curriculum research in respect of the natural sciences for all the departments of education in West Germany. Use of the results is voluntary, but as in the case of the Schools Council, excellent use is being made of the results. In both cases the lack of contact with the education practice is felt to be a flaw.

(e) State Institute for School Pedagogics (ISP), MÜnchen, West Germany

The ISP's brief includes the following:

- the renewal and improvement of syllabi
- the scientific guiding of curriculum projects
- aid in the planning of in-service training.

An important outcome of the work done by the ISP and its five sections is the so-called draft curricular syllabi which indicate relatively complete and tested learning content and didactic guidelines to realise the comprehensive as well as the particular objectives. Manuscripts are developed simultaneously and are made available to publishers for publication after the comprehensive syllabi have been finalized.

(f) Curriculum Centre, Israeli Department of Education, Jerusalem

This Centre personally conducts curriculum development projects, initiates others and co-ordinates projects which are conducted in co-operation with universities. As in many other countries, this Centre, as a section of the ministry of education, is geared, to the principle of continuous co-ordination and research. Dissemination,

aid and guidance regarding innovation is channelled through the 32 regional pedagogical centres.

(g) Scottish curriculum centres

At present there are four permanent Scottish curriculum centres for specific subject groups under the guidance of and controlled by central committees, one for each subject or group of subjects. The activities of the centres form part of the implementation of the policy of continuous curriculating. The centres develop educational material in co-operation with schools selected for the purpose.

(h) Curriculum procedures in the USA and in Canada

The following is characteristic of procedures investigated:

- Schools are involved.
- Regional centres implement innovation.
- Teachers are trained to participate in experimental work.
- A curriculum section co-ordinates the activities of the different curriculum committees.

10.7.2 Syllabi and core syllabi

More exact formulations can be undertaken later, but for the present the terminology used for the purposes of this report is defined as follows:

(a) Curriculum

- On the macro-level: A curriculum indicates the group of subjects that are offered at an institution of education, in a course or a field of study.
- On the micro-level: With the curriculum of a subject is meant the total content of a subject for a specific phase, course or field of study as built up around, or field of study as built up around, and as an extended interpretation of the group of relevant syllabi.

(b) Curriculating

The design, development and evaluation of curricula, courses and syllabi with statement of objective, selection, classification and evaluation as basic activities.

(c) Syllabus

It is a short summary of compulsory and optional topics or themes belonging to a given subject or course which must be taught on a particular level and in a specific period of time.

(d) Core syllabus

It is a syllabus which contains core content and which is common and binding in respect of all the education institutions that implement it (voluntarily or by obligation).

The compilation of core syllabi have as object the assurance of a degree of uniformity with a view to the comparability of standards. The existence of core syllabi are for this reason strongly supported in quite a few of the comments received, but with the proviso that allowance be made for

special needs, for example in the form of options. The core syllabi of the CHE (and the JMB, where applicable) in this respect play an important role and are also used by other departments. Comments made, are that more significant participation should be granted to Non-White education in the drafting and revision of curricula and syllabi to ensure greater suitability for all population groups.

In the light of highly noticeable differences between similar or related educational instutions (universities) in respect of syllabus, course or curriculum content, which unnecessarily impedes mutual recognition, change-over and integration, attention can be given to greater commonality by means of suitable co-ordination.

From the current investigation the following also appears to be of importance:

- A syllabus or its equivalent is found in many countries.
- It is increasingly common to develop a subject curriculum around a subject syllabus.
- Although it would be difficult to draw up common core syllabi for a heterogeneous population structure, it should nevertheless be considered with a view to equal standards and certification.

10.7.3 The curriculum

To maintain perspective in curriculating, attention should be given to the subject content (micro-curriculum), but at the same time also to the composition of subjects in the form of courses and fields of study (macro-curriculum). An institution that undertakes curriculum design, development and evaluation, should view the curriculum as a whole in order to satisfy criteria such as balance and relevance.

At institutions of education (formal as well as non-formal) there is a need, to a larger or smaller degree, for guidance in respect of curriculum planning. This need is evident from numerous inquiries and requests addressed to persons and bodies (sometimes from abroad) who can offer such aid. The question arises whether provision should not be made for this growing need in the RSA by an institution that has at its disposal expert personnel and adequate facilities to offer the necessary co-ordination, aid and guidance. The Department of Education in Swaziland for example has established and launched a curriculum centre with personnel and financial support from the USA and England!

A lack of co-ordination in respect of curriculating on the micro and macro-level leads to many problems that can be prevented by a competent co-ordinating body that can provide scientific advice. Co-ordination as achieved by the CHE with its committees IDCGS and IDCGP and its modus operandi wherein provision in made for research input, is an indication of a possible policy which can be adopted on a larger scale.

In short, the problems that centre around curriculum (lack of for example co-ordination and scientific approach), where the point at issue is education in the RSA on all levels and at all institutions of education, indicate the need for a significantly co-ordinated and scientifically justified approach. Such an approach can, in the light of foreign curriculum models, possibly be achieved in the RSA by a similar institution for curriculating with the necessary status and independence in which is integrated a network of regional and local curriculum or teacher centres.

10.7.4 Selection of content

(a) Primary and secondary education

A practice for the selection and orderly arrangement of curriculum and syllabus content should at least satisfy the following requirements:

- it should offer equivalent services to all departments of education to enable them to select syllabus and curriculum content suitable for their particular educational needs;
- it should offer equivalent services to any department of education to improve or renew syllabus and curriculum content;
- it should create the opportunity to enable teachers to play a progessively greater role in the process of selecting curriculum and syllabus content.

(b) Tertiary education

University departments and also committees at technikons select instruction and learning content. In the latter case there is a degree of co-ordination but at universities there is little or no mutual consultation.

(c) Adult, enriching and compensatory education

This field of the selection of learning content requires mutual co-ordination to enable courses to link up significantly with present courses, but also with courses offered during previous years. Such co-ordination is at present lacking.

10.7.5 Classification and distribution of content

Syllabi indicate themes that are to be taught, but are usually not prescriptive as far as the classification of themes is concerned. Teachers follow the classification in textbooks and therefore it would be of value if the classification could be tested experimentally beforehand to determine its suitability. On the basis of tested manuals teachers should receive guidelines which enable them to undertake a scientifically justifiable classification of the learning content independently and with due allowance for local circumstances. Textbook writers can also be expected to pay attention to classification possibilities found to be acceptable in systematic testing when classifying learning matter.

The question of classification is however not limited to subject content, but also refers to macro-curricular classification, that is to say the classification of subjects within courses, curricula and fields of study. Central guidance, based on research can in this regard contribute to the improvement of education.

The above-mentioned classification matters cannot be entrusted to subjective opinions and limited experience, but should be based on scientific research, the results of which should be made availalbe to all institutions of education.

10.7.6 Teachers' and the teaching profession's participation in curriculum matters

As far as pre-primary education is concerned, curriculum design is in the hands of the individual teachers. The effectiveness of this depends on factors such as training and the extent of co-ordination and guidance offered. One of the most important matters in this respect is the question of school readiness. The diversity of needs is so comprehensive in this respect that the necessary scientific attention should continually be given to the matter on a country-wide basis.

The involvement of teachers in curriculating in respect of primary and secondary education lies mainly in the preparation of lessons and lesson units. Some teachers are also involved in the compilation of work

schemes for the school, drafted with reference to the syllabi, textbooks, departmental requirements and other relevant documents and manuals.

Some teachers write textbooks, others again take part in the drafting of manuals and some represent teacher associations in syllabus committees.

In some departments of education (e.g. the CED and the TED) teachers are involved in conducting curriculum projects. Furthermore, teachers can participate in curriculating through the teachers' associations and interest groups. Significant proposals can be conveyed to the departments in this manner.

Comparisons with other countries show that the teachers in countries such as the USA, England, the Netherlands and parts of Germany take considerably more part in curriculating than their colleagues in the RSA.

As far as institutions for tertiary education are concerned, it is clear that lecturers have a lesser or greater degree of participation in curriculum, course or syllabus as members of committees, as staff members of departments or as individuals. It is however evident that their participation is in most cases attended by little co-ordination and research. Lecturers' and teachers' research inputs vary. They do however enjoy a reasonable amount of freedom in curriculating for lessons, lesson units and lectures. From different reports it is clear that this participation is considered to be of great importance. Literature in this connection links the success of innovation through systematic curriculating to, inter alia, the significant participation of the persons who teach and to the planning and execution of projects where such innovation is tested. Expert aid from outside is necessary as few teachers have the time,

background or real interest to pay attention to the systematic innovation or improvement of learning content.

10.7.7 Research support

The premise in this regard is that the proposals for adaptation, improvement or innovation of courses, curricula and syllabi should in all respects be based on scientific investigation and not just on subjective opinions or biased experience. This prevents the incompetent and rash submission to pressure and persuasion which has other objectives than the educational in mind.

A second and extremely important point of view found in all the reports and literature is that curriculating should continually be undertaken to keep pace with the rapid succession of changes in society, technology, knowledge, new skills and labour needs.

Different models for effective curriculating are presented in literature, but authors agree that a combination of the most acceptable models is desirable in any strategy.

There is general agreement that curriculating should be undertaken in accordance with scientific methods. At the same time it is evident that such curriculating can only be undertaken effectively by a group of experts who can cope with the different components of curriculating as a team: guidance of research, statistical processing expertise, et cetera. It is also evident that no department of education in the RSA can establish and maintain a curriculum section that can cope with research regarding all school subjects and fields on its own. Hence the CHE has divided syllabus research among the provincial departments of education. There are however indications that despite the division of subjects some of these departments cannot cope with the research.

In order to place curriculating on a scientific basis and to provide for the effective dissemination of the results of research supported curriculating, it is necessary to devise a total strategy which provides for

managing the above-mentioned problems such as the co-ordination and making available of scientific curriculating on all levels of education formal and non-formal.

10.7.8 Dissemination of curriculum information

Dissemination, i.e. the distribution or introduction of the ideas and concepts contained in curriculum improvement or innovation as aspects of curriculum development, is one of the key activities in the whole process of curriculating. The effectiveness of curriculating as a country-wide service stands or falls with the effectiveness of continuous dissemination. A justifiable model for curriculating should include an effective strategy for dissemination. A network of centres mostly integrated (for example pedagogical or teacher centres) as found in some countries (England, Scotland, the Netherlands, Israel and the USA: curriculum development centres) form the focal point for dissemination activities. These focal points are usually fed from a central institution that can offer expert aid and guidance and can guarantee scientific handling.

In the RSA, where the need, as seen in a country-wide perspective, is enormous owing to the fact that so many teachers are poorly qualified or unqualified, the decentralized but co-ordinated services of decentralized centres are indispensable.

In short, dissemination through the channels of an organised network of local and regional centres, as co-ordinated by a national curriculum centre, appears to be a prerequisite for presenting equivalent curriculating services.

10.8 FINDINGS

The following findings are presented to the Main Committee in summarised form:

10.8.1 There is still much ignorance in respect of the theory and practice of curriculating.

10.8.2 The RSA should take account of the fact that relatively few curriculum specialists have as yet been trained.

10.8.3 Curriculating services are fragmented in an unparalleled way in the RSA!

10.8.4 Curriculating to a great extent takes place in an unco-ordinated way, for example in respect of the different departments and of formal and non-formal education.

10.8.5 Control of the equality of education provided is almost impossible in a highly diversified curriculating practice.

10.8.6 A strong tendency towards bureaucratization regarding curriculating matters is to be detected.

10.8.7 There is a strong tendency to handle decision-making regarding curriculating on a purely administrative level.

10.8.8 Teachers and principals do not as yet make significant contributions to curriculum research and decision-making.

10.8.9 In general curriculating is not supported by proper research.

10.8.10 At present there are many limitations on curriculum research and experimentation.

10.8.11 Co-ordination between curriculum and evaluation services can be improved.

10.8.12 As a result of the divergent points at which curriculating takes place the organised profession and the JMB at present have to spread their participation and control across a wide spectrum.

10.8.13 There is no central budgeting for curriculating for "education" and "training".

10.8.14 The training functions related to curriculating services are not (always) tackled efficaciously or in a co-ordinated manner.

10.8.15 Dissemination of curriculum information demonstrates a lack of co-ordination.

10.8.16 Due to the fact that each curriculum institution is concerned with its own needs and circumstances, there is no central institution to control the curriculum field as a whole.

10.8.17 There is room for improvement and more co-ordination in the way in which the differentiated curricula are implemented.

10.8.18 The university admission examination has a strong formalizing effect on all curricula (but especially on those of secondary education).

10.8.19 Some departments of education normalize examination marks to standard norms. This, among other things, leads to the non-comparability of examination results.

10.8.20 Teachers in this country are markedly syllabus bound and ways and means should be devised and introduced to improve the quality of the work documents that are distributed.

10.8.21 Material accompanying curricula can be functionally and appropriately designed if the planning of manuals, learning material, et cetera is handled as a curriculum service.

10.8.22 As far as pre-primary education is concerned, there is a great need for manuals and school readiness programmes.

10.8.23 Curriculating (and examinations) should be approached in such a way that the principal and the teacher (lecturer or person who instructs) can still make significant curriculum decisions.

10.8.24 Attention must be given to a curriculum for basic education (basic minimum schooling) for non-adults as well as adults.

10.8.25 There is a need for curriculum services for tertiary as well as for non-formal education.

10.8.26 At present there is no set of education principles for the RSA that can give direction to the practice of curriculating.

10.9 RECOMMENDATIONS

In the light of the findings of this investigation it is recommended

10.9.1 that a South African service for curriculating and research be established under the central control of education;

10.9.2 that this service be housed at a suitable place so that communication (transport and connections) with education and training in the country can progress effectively;

10.9.3 that the proposed service will provide curriculum services and advice to all institutions that offer education and training (formal, non-formal, continuing, adult, compensatory, et cetera) and will also, with the co-operation of the above-mentioned institutions, undertake the production of tested subject curriculum kits;

10.9.4 that an effective infrastructure including physical facilities (media, vehicles, buildings) and an administrative and professional section be established for the service;

10.9.5 that the highest priority be given to the training of experienced people as professional curriculum specialists;

10.9.6 that plans should be made in respect of the future housing of the proposed service and other possibly related services in one building with a view to liaison (educational technology, unity in respect of examinations, et cetera);

10.9.7 that present-day curriculum practices be studied and that procedures be worked out for the co-ordinated design of syllabi, courses and curricula with which the curriculum services (testing, evaluation) of the proposed institute should be integrated;

10.9.8 that recommendations for the adaptation, improvement or innovation of syllabi, courses and curricula be motivated by the results of scientific investigation;

10.9.9 that the proposed service should develop a justifiable model for operationalization in accordance with the accepted principles for the provision of education.
Furthermore:

- to render curriculum services
- to integrate dissemination channels and facilities for regional and local centres
- to bring about co-operation and co-ordination with institutions in respect of educational and in-service training, control of external examinations, et cetera;

10.9.10 that regional curriculum centres should, where necessary, be established under the joint control and financing of the central and regional authority (for example a ministry) to serve as a dessemination, in-service training, demonstration, conference or meeting centre for a particular area and education authority;

10.9.11 that local centres (e.g. teacher centres) under the control of regional (e.g. provincial) education authorities with

participation by the profession be integrated with regional curriculum centres to undertake the dissemination of curriculum services;

10.9.12 that the proposed service should function under the guidance and supervision of a widely representative advisory committee which reports to the central authority and/or advisory body;

10.9.13 that where applicable, sections of the proposed service should function under the guidance and supervision of sufficiently representative committees (one for example in each suject group such as the Physical Sciences);

10.9.14 that a formal survey of the present infrastructure for curriculum provision be made as soon as possible (it would be important to identify the research potential available in the departments of education, universities, colleges of education, technikons and elsewhere with a view to effective integration).

10.9.15 Recommendations for the short, medium and long term

The following draft programme is proposed for the implementation of a new structure for the planning, development and evaluation of curricula at national and regional levels, as expounded in the preceding paragraphs.

10.9.15.1 Short term: Immediately

(a) Recognition of the need to formulate principles for the planning, development and evaluation of curricula with curriculum planning leading to innovation.

(b) Dissemination of information and promotion of interest in and motivation for innovation in the present system, liaison with education authorities, examination boards.

(JMB) and professional interest groups, such as the different teachers' associations.

(c) Decision-making regarding the introduction of a national curriculum evaluation service as a section of a larger institute for curriculum development and research.

(d) Provision of the necessary machinery for establishing such an institute and designing a work plan.

(e) Decision-making regarding liaison at regional level and the structure of the institute.

(f) Introduction of concepts regarding the planning, development and evaluation of curricula.

(g) Identification and training of curriculum specialists.

10.9.15.2 Medium term : one to five years

(a) Provision of funds for the establishment of the proposed central curriculum unit.

(b) Creating the necessary liaison between the central unit and existing examination boards and authorities in order to determine what services are required and how to provide them.

(c) Conducting research on the existing planning, development and evaluation practices and feasible alternatives that will take into consideration possible future changes regarding initial and in-service training courses for teachers.

(d) Promotion of equality in curricular provision through courses, material, demonstrations, etc.

(e) Preparation and dissemination of information on the functioning of the unit, as well as examples of procedures and practices that have been formulated.

(f) Introduction of work groups on a regional basis to promote interest in and knowledge of curriculum evaluation and development.

(g) Development of teachers' courses in curriculum planning, development and evaluation at the initial and in-service levels.

(h) Elimination of unnecessary duplication by introducing curriculum co-ordination and the most effective utilization of the limited manpower available.

10.9.15.3 Long term: five to fifteen years

(a) Establishment of regional curriculum centres financed jointly by the region and the state to provide for the identified needs in development, training and service.

(b) The above centres must provide material and services that are developed and sponsored by the central unit for distribution to local centres.

(c) Report to the central unit on research, development and service activities: regional centres to act as co-ordinating bodies between the authorities and organizations at regional level and the central body.

10.10 FOLLOW-UP RESEARCH

10.10.1 Follow-up research should in the first place be conducted in respect of the findings and recommendations.

10.10.2 The following themes are identified as being of immediate significance within the framework of the investigation by the Work Committee: Curriculum development (contract or ad hoc research)

(a) Research concerning the provision of educational material (manuals, textbooks, curriculum packages/kits) as a planned and organized service within curriculum context.

(b) The curriculum problems regarding the provision of non-formal education.

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