

MUSTER

Multi-Site Teacher Education Research Project

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Discussion Paper

23

Analysis of the Curriculum as
Documented at the National
Teacher Training College in
Lesotho

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Revised May 2001

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Multi-Site Teacher Education Research Project (MUSTER)

MUSTER is a collaborative research project co-ordinated from the Centre for International Education at the University of Sussex Institute of Education. It has been developed in partnership with:

- The Institute of Education, University of Cape Coast, Ghana.
- The Institute of Education, The National University of Lesotho.
- The Centre for Educational Research and Training, University of Malawi.
- The Faculty of Education, University of Durban-Westville, South Africa.
- The School of Education, The University of the West Indies, St. Augustine's Campus, Trinidad.

Financial support has been provided for three years by the British Department for International Development (DFID).

MUSTER is focused on generating new understandings of teacher education before, during and after the point of initial qualification as a teacher. Its concerns include exploring how new teachers are identified and selected for training programmes, how they acquire the skills they need to teach effectively, and how they experience training and induction into the teaching profession. The research includes analytical concerns with the structure and organisation of teacher education, the form and substance of teacher education curriculum, the identity, roles and cultural experience of trainee teachers, and the costs and probable benefits of different types of initial teacher training.

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This series of discussion papers has been created to provide an early opportunity to share output from sub-studies generated within MUSTER for comment and constructive criticism. Each paper takes a theme within or across countries and offers a view of work in progress.

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ACRONYMS AND ABBREVIATIONS

APTC	Advanced Primary Teacher Certificate
BC	Bridging Course
COSC	Cambridge Overseas School Certificate
DANIDA	Danish Aid
DEP	Diploma in Education (Primary)
DPE	Diploma in Primary Education
ESL	English as a second language
Hrs	Hours
Mods	Modules
NTTC	National Teacher Training College
ODA	Overseas Development Administration
PTC	Primary Teaching Certificate
SIMs	Self instructional materials
STC	Secondary Teaching Certificate
UNDP	United Nations Development Programme
UNESCO	United Nations Education, Social and Cultural Organisation
USAID	United States aid

ABSTRACT

This report analyses the curriculum for the initial preparation of primary teachers at the Lesotho National Teacher Training College (NTTC), using documentary sources only. The focus of analysis is the Diploma in Primary Education (DPE). The study sets this new programme in its historical context and describes its structure and overall design. The curriculum is then analysed in terms of its aims and objectives, the content, pedagogy, teaching/learning materials and assessment, to evaluate the consistency and coherence of the curriculum strategy. After a brief general overview, the four core subjects are analysed in detail. The analysis shows up some inconsistencies. The overall programme aims and objectives are couched in the discourse of the 'reflective practitioner' model, but the individual course outlines reflect a more behaviourist approach. While there are superficial similarities across subjects, some are more internally consistent than others. The document says little about pedagogy, or about how theory and practice are to be integrated. The study concludes by raising further questions that can only be answered by studying the curriculum in action, as it is delivered in the college classrooms.

CHAPTER 1

INTRODUCTION

1.1 Introduction

This report sets out to analyse the curriculum for the initial preparation of primary teachers at the Lesotho National Teacher Training College (NTTC), using documentary sources. While the College offers several programmes for various levels of the education system, the main analysis is of the most recently mounted primary teacher education programme; the Diploma in Education (Primary).

1.2 Rationale for the Curriculum Analysis

Curriculum designers, reviewers and developers take into consideration the fact that there are various approaches/models that may be followed in analysing a curriculum. This study is based on the model first drawn up by Michael Eraut (1976), which identifies the aims, objectives, content, pedagogy, and teaching/learning materials, as well as assessment procedures, and focuses on the relationships between them. Setting this in a broader context, the study tries to answer the following questions:

- 1) What are the overall aims of the programme?
- 2) How is the curriculum designed?
- 3) What are its historical antecedents, what past and present factors influence its form and content?
- 4) How has the curriculum changed over the last 20 year?
- 5) What characterises the different components of the curriculum – objectives, content, pedagogy and assessment?
- 6) How are the curriculum objectives, content, pedagogy and assessment interrelated?
- 7) How do the components of curriculum relate to the primary school curriculum that they are preparing to teach?
- 8) What are the aims of the curriculum for preparing English, Mathematics, Science and Education?
- 9) How is the curriculum organised to achieve these aims?

1.2.1 Sources

For the background review we have drawn on earlier reports (e.g. Otaala and Letsie 1986, Burke and Sugrue 1994, the NTTC annual Calendars), as well as on our own knowledge and

interviews with key informants. In analysing the current programme, we have used the curriculum document itself (NTTC 1997).

1.3 Historical background

The roots of the current NTTC Curriculum only go back as far as the foundation of the college in 1975, when there was an unusually sharp break with the past. The college was set up by the government, assisted by UNESCO/UNDP, USAID, ODA and DANIDA, with a clear agenda: it was to be a national, secular college, offering a 'modern' type of curriculum for both pre- and in-service training, which would meet the needs of the developing education system in Lesotho (Otaala and Letsie, 1986). As the college was built from scratch on a new site, and few staff members were transferred from the seven old church-affiliated colleges, it began its life without much carry over from the past in terms of traditions and assumptions.

So where did it draw its vision and its practices from? NTTC was set up as a 'project', funded externally for five years, under an American director. As there were few Basotho who met the criteria for staff - a university degree plus teaching experience - most of the tutors in the initial stages were expatriates, including British, American, Danish and Dutch. The original curriculum therefore drew on current Western ideas about teacher education, strongly influenced by competency-based, skills-oriented practices from the US, and by the behaviourist conception of teaching.

In the beginning, the college offered three programmes: the Primary Teacher Certificate (PTC), the Secondary Teacher Certificate (STC), and the Advanced Primary Teacher Certificate (APTC). In-service programmes were developed later. The actual subjects derived from the Lesotho Ministry of Education's policies and were linked to the primary and secondary school curricula. To encourage integrated thinking and collaboration between departments, the college was organised into the following 6 areas:

- * Language Studies
- * Development Studies (including RE and arts subjects)
- * Maths and Science
- * Professional Studies
- * Practical Studies
- * Extra-mural Studies (including internship and in-service)

The aims of the PTC programme can be summarised as: to produce graduates with a sound command of English and Sesotho for instructional purposes, who have knowledge of current teaching techniques, curriculum development techniques, classroom management skills and educational theory (Burke and Sugrue, 1994). It was thought that to in order to produce an 'effective teacher', sustained periods of supervised school practice were required (Matsela, 1986). The course was therefore structured on an IN-OUT-IN model, whereby an internship

year was sandwiched between two residential years at college. This structure had the further advantage of providing extra teachers to understaffed schools.

Within the college, teaching methods were supposed to be varied and take advantage of modern technology. Whole-group lectures (100-150) were to be followed by seminar discussions for 20-25 participants, and tutorial groups of less than 10 were also planned. Where appropriate, 'practical' sessions would be run, and everyone did micro-teaching during Year 1. Tapes, slides, cassettes as well as books were provided, but staff and students were encouraged in the early years to develop 'self-instructional materials' (SIMs) to provide locally-relevant sources for independent study. In preparation for internship, 'subject kits' in the form of short schemes of work and lesson plans, were made up. The aim was that students should experience interactive and independent learning.

It was the intention to create an equal balance between 'content' and 'methods', with subject areas as well as professional studies teaching appropriate pedagogic skills. Courses were framed in terms of behavioural objectives, and the assessment pattern followed this approach. An Item Bank for objective-type and well as essay-type questions was set up. Continuous assessment counted equally with end-of-term exams towards the final mark.

A Mosotho staff member who joined the college soon after it started remembers exciting debates among the international faculty, with many questions being raised and different viewpoints expressed, including concerns about the relationship of the curriculum to Basotho cultural traditions; but she felt that the assessment system, with its behaviourist assumptions, provided the overall framework for the teaching and learning. (Interview with Ntoi, 1997)

Affiliation to the University Faculty of Education in 1979 brought a further set of influences to bear; the behaviourist tradition conflicted to some extent with the university views. As many NTTC graduates moved on to study at NUL, the university was also concerned to raise academic standards in the study of subjects.

After the 'project' ended, the money available to finance this curriculum was greatly reduced, which particularly affected the resource-based nature of teaching and learning, but little was done to develop the curriculum in more sustainable ways. A review and reappraisal of the curriculum in 1986 brought out a number of criticisms and suggestions for improvement (Otaala & Letsie, 1986), but it seems that no significant changes were made for some years, perhaps due to changes in government and a somewhat turbulent period at the college with several changes of Director.

However, in the early 1990s, the Advanced Primary Education Certificate (APTEC) programme was phased out and replaced by a new programme, the Diploma in Primary Education (DPE). This new programme was intended to improve the quality of primary teachers in the country. The graduates should be able to take up leadership roles in the primary education system, such as senior teachers in large schools, principals of medium sized schools and/or resource persons

and models of good practice. Specifically, the programme aimed at improving student teachers' facility in Sesotho and English, developing their capacity for independent study and enhancing their capabilities as change agents in their communities.

This Diploma was also a three-year programme but unlike the PTC it allowed student teachers to specialise in two teaching subjects. In contrast to the PTC, the diploma students spent one semester on school attachment. The purpose was to allow student teachers to observe administration, concentrate on their two areas of specialisation, be supervised on their class work and carry out prescribed tasks and relevant research. Like the PTC, diploma students were assessed through coursework and end of year examinations in equal proportions.

In 1994, two Irish consultants were invited to carry out a thorough review of the training of primary teachers at NTTC and in their report 'Teaching and Learning at the NTTC' (Burke and Sugrue, 1994) they made a number of criticisms of both PTC and DPE. They observed that the PTC programme offered 14 different subjects in all, with the professional studies being allocated more time (19%) than other subjects. They pointed out that it was examination-oriented and that 'the proliferation of assignments, classroom tests and terminal examinations places a considerable burden of work on both staff and students' (p.13). They thought it odd that teaching practice, seen as a very important element, was not awarded a numerical mark.

For the DPE, the report pointed out that 72% of the learning time was allocated to teaching subjects while 28% was allocated for the education course with its three components: professional studies (7.8%), education administration (11.8%), statistics, research methods and project (8.5%). They questioned whether people who already held a teaching certificate plus a minimum of 2 years teaching experience still needed to spend 72% of the time on curriculum subjects.

A main criticism made by the report was about the 'duplication in the Dip. Pr. Ed. programme of all the subjects previously studied in the PTC programme' (Burke and Sugrue 1994, p.17) and it recommended that both the PTC and DPE programmes should be replaced with a new diploma programme.

CHAPTER 2

DIPLOMA IN EDUCATION (PRIMARY)

2.1 Introduction

In keeping with this, the Diploma in Education (Primary) (DEP) commenced in September of 1998, to replace the PTC. The justification for introducing the new diploma centres on the complex, challenging and increasingly diverse and difficult role of the primary teacher's role. It is pointed out in the Diploma in Education (Primary) document that:

The more difficult the context the greater the demands on teachers' initiative, resourcefulness and self-reliance. Primary teachers must be capable of bringing the theoretical and practical aspects of this complex role into productive tension, and be self-critically aware when working in the isolation of the classroom while simultaneously capable of working co-operatively and collaboratively with colleagues. They must have a thorough grounding in all curriculum subjects... [This] programme will be built on the principles of depth, breadth and coherence. (p.9)

The above quotation sets the tone for the offering of the new diploma in education at the National Teacher Training College, which is examined in more detail below.

The introduction of DEP thus represents the first major change in 28 years for the initial preparation of primary teachers. The main differences are a higher entry requirement, an increase in academic content, and a streamlining of the subjects studied. The overall aim is to raise the quality of primary teachers.

2.2 Documentation

Unlike the other NTTC programmes, the new DEP is set out in a document detailing the rationale, aims, objectives, regulations, entry requirements, programme content, assessment and certification (NTTC, 1997). The following analysis is based largely on this document.

An important and significant feature of the programme as documented is the consistent way it is formulated and described. Each subject sets out for each academic years:

the number of modules and hours allocated
general aims and specific objectives
assessment and weighting

a syllabus which gives for each module: component (topic); concepts (sub-themes); objectives; assessment exercises; prescribed texts and texts for reference

This made it relatively easy to compare courses.

2.3 Entrants for the DEP Programme

Since this programme is supposed to be of a higher standard compared to the PTC programme, it requires students to have 4 credits and a pass in a fifth subject of the Cambridge Overseas School Certificate (COSC). These are high school graduates who do not hold a teaching certificate and may have not taught before.

2.4 Structure of the DEP Programme

This is a 3 1/2 year programme, which starts in August rather than in January as do the other programmes. The first semester is a bridging course, designed to upgrade student achievement in the core subjects, and to prepare them for tertiary study.

There are eight subject areas which are each given equal amounts of time during the last 6 semesters: Sesotho (language & literature), English (language & literature), Maths, Science (chemistry, physics, biology), Education, Applied Sciences (Agriculture, Home Economics., Health Education.) Expressive Arts (Arts & Crafts, Music, Physical Education, Drama), Social and Development Studies (Religious Education, Development Studies). In the first semester students take only the first four, plus Study Skills.

Courses are divided up into Modules, each of 15 hours contact time; a module lasts 5 weeks, with 3 hours contact per week. Each module carries an assignment that counts in the coursework score.

Table 1 shows how the programme is made up. The unequal amount of time in each year reflects the fact that 15 weeks are given up to Teaching Practice: ten weeks in the second semester of Year 2, and five weeks in the second semester of Year 3.

Table 1: Allocation of Modules (Mods) and Contact Hours (Hrs.) by Subject

Subject	Bridg. Course		Year 1		Year 2		Year 3		Totals	
	Mods	Hrs	Mods	Hrs	Mods	Hrs	Mods	Hrs	Mods	Hrs
Sesotho	5	75	6	90	4	60	5	75	20	300
English	5	75	6	90	4	60	5	75	20	300
Maths	5	75	6	90	4	60	5	75	20	300
Science	5	75	6	90	4	60	5	75	20	300
Education			6	90	4	60	5	75	15	225
Applied Science			6	90	4	60	5	75	15	225
Expressive Arts			6	90	4	60	5	75	15	225
Social Science			6	90	4	60	5	75	15	225
Study Skills	4	60							4	60
Totals	24	360	48	720	32	480	40	600	144	2160

2.5 Programme Aims

There are 12 aims; they are wide-ranging but carefully worded, and indicate an ‘extended professional’ view of the teacher, who should undergo a *‘thorough and rigorous programme of professional education, closely linked to studies of theory and knowledge relevant to the practice of teaching’*. The teacher should have a capacity for independent study and for further professional development; be able to evaluate their own and others’ work; become involved in curriculum development; and *‘act as agents of change within their communities.’*

The application of knowledge in context is emphasised throughout: e.g. to *‘instil in students an appreciation and understanding of the teaching and learning processes as they apply and relate to young children’*. The course should foster appropriate attitudes, provide pedagogical experience on which the student can build a *‘sound philosophy and approach’* and enable them to understand Basotho culture (NTTC, 1997: 10)

2.6 The Objectives

These nine objectives follow quite closely from the aims - though there are no one-to-one correspondences - and are worded as abilities or in broad competence terms e.g. *‘understand the fundamental concepts and principles underlying the primary school curriculum and possess the appropriate levels of teaching skills and the general expertise necessary for their application in primary schools’*.

Each of them implies high level knowledge and understanding, together with the skill to apply these in context: e.g. *'possess the ability to recognise, analyse, synthesise and propose solutions to a range of practical problems in the school context.'* Professional attitudes are implied e.g. *'be able to assess the appropriateness of his/her own teaching and collaborate with colleagues for mutual professional development.'* (NTTC, 1997:11)

2.7 The Curriculum Strategy

Detailed analysis of the four core subjects - education, English, maths and science – follow in the sections below. Here, we give an overview of the features of the curriculum strategy.

2.7.1 Subject Aims and objectives

All the subjects state broad aims, usually phrased in some combination of: knowledge and understanding, skills and attitudes, awareness and appreciation, and the ability to teach the subject. The specific objectives are usually quite close to the content and are predominantly phrased in cognitive terms, though there is some emphasis on practical skills in science. Some address an aspect of classroom practice, such as lesson planning or making up tests; these are mainly in Education

2.7.2 Content

This is an academically-oriented, content-heavy programme. In many ways it appears very 'traditional'. Subjects are clearly demarcated even when they have been combined into one teaching area; for example in Social Science RE and Development Studies are taught by different departments in different semesters. This probably reflects the primary school syllabus. But further demarcation appears between content and methods; every module has been deliberately labelled as one or the other. The intention is to have an overall balance of 70% content and 30% methodology. Table 2 shows how this has been achieved for the core subjects:

Table 2: The balance of content v methodology, by number of modules

SUBJECT	CONTENT	METHODOLOGY	TOTAL
English	15	5	20
maths	15	5	20
science	14	6	20
education	8	7	15

If we analyse instead using Shulman's categories for the 'knowledge base' of teaching (see appendix), we find that 'content knowledge' comprises between 50-80% in the three subject areas. In education, all his categories are represented, with 'general pedagogic knowledge'

taking up one third; this of course includes some skills development. This is quite different from the old PTC, where some 'general pedagogic knowledge' was included in the subject areas.

In spite of the imposed common format, there are some interesting differences between the courses. In the English course, there is a clear emphasis on improving trainees' own English language abilities, through the study of grammar, and by paying attention to developing their personal communication and writing skills. English literature is foregrounded, with modules on novels, plays and poems, which are to be studied from two points of view: for enriching the trainees' knowledge and understanding, and for teaching literature to primary pupils. The course is clearly linked to the primary syllabus, and includes both theories and practical approaches to ESL teaching.

The maths syllabus is the most heavily weighted (80%) towards content, which appears to be around O level standard. There is little mention of maths education topics. Science has 70% content, apparently aimed at bringing students some way towards 'A' level. Again, there is very little on science education or on specific ways of teaching the primary syllabus.

In education the sequence appears to be: to start with the classroom and with basic understanding of children, and to move towards the wider context. The titles of the modules suggest a fairly traditional approach, with sociology and philosophy taught separately rather than integrated under themes. Children's learning is not highlighted and is presumably taught under 'psychology'. Other topics include general methods, lesson preparation, testing, resources, and guidance and counselling and there are modules on early years, special needs, ICT, and research. It is not clear from the documents how far these are discussed in the context of Lesotho schools; for example, the problems of handling large or multi-grade classes, the underachievement of boys and the integration of children with special needs are not specifically mentioned.

2.7.3 Teaching/Learning Methods

There is little information in the document. One can note that under the old curriculum, all subjects were timetabled in the same way; a weekly presentation to the whole cohort (up to 250 student teachers) followed by 'small group discussions and/or practical' in classes of around 50 student teachers. Since it is not clear if this pattern will continue, it will be important to find out from the teacher educators whether or not they plan to continue with the old practice. Interestingly, there is no mention of 'SIMS' or indeed of any form of independent study.

Some inferences can be made by scrutinising the content, objectives and assessment patterns of the programme. There is little here to suggest anything other than traditional transmission methods, with occasional practical activities in laboratories or for micro-teaching. There is no indication that methods suitable for primary schools will be modelled and practised in the college.

2.7.4 Teaching/Learning Materials

Departments vary in their recommendations. Some list the same books for all three years (e.g. science), others give different ones; in total, the lists vary from 16-30 books. Among prescribed texts, only English explicitly indicates the primary school syllabus, though maths mentions a number of local maths textbooks. A worrying aspect is that many of the books may be outdated and/or irrelevant; few have been published since 1990, and very few indeed are by African authors or even published in Africa (except for local textbooks).

2.7.5 Assessment

In all subjects, coursework and exams are combined in a 50:50 ratio (except in Year 2 where it is wholly coursework). It is stated that assessment should be criterion-referenced. There are detailed regulations about levels of scores, resubmission, and failing. Teaching Practice, which is given a numerical score, also has to be passed. Types of coursework are described on p.94 of the document, where 14 varieties are suggested, from reports on laboratory experiment to different kinds of tests, essays and projects.

The planned assessment procedures for the four subjects do indeed show a wide variety of methods. Each module has a piece of assessed coursework attached to it. Most are in the form of written work, but microteaching, peer teaching, and 'oral discussion' are also listed. What is less clear is whether they are suitable for evaluating the achievement of the objectives stated for that particular module. None, except teaching practice itself, are to be carried out in the classroom context.

CHAPTER 3

EDUCATION

3.1 Aims

A close study of the course as documented reveals a fairly consistent pattern across the curricular components. There are 12 aims spread across the 3 years. They are broadly phrased in terms of *understanding*, *awareness*, *attitudes*, *knowledge*, and *skills*, in that order of frequency. Examples are:

- instil in the student-teacher an *appreciation and understanding* of curriculum and curricular issues
- equip students with a *basic knowledge* of educational administration and management
- provide students with opportunities for *practising and demonstrating* teaching skills such that general educational principles are observed.

3.2 Objectives

These are consistent with the aims, rephrasing them in behavioural terms. Both practical and cognitive objectives are set out, and the latter frequently demand quite high-level cognitive skills. The following table summarises the frequency - across the 3 years - of various verbs used:

Table 3: Verbs Used in Setting out Objectives in Education

Objectives in Education	Verbs Used in Stating Objectives	Frequency
Cognitive	(Critically) analyse	9
	Evaluate	5
	Describe	4
	Explain	2
	Define/Identify	2
	Demonstrate understanding	2
Practical	Demonstrate	7
	Devise, prepare, present	3
	Apply	1

This signals an intention to challenge the students to think about the content, understand and apply concepts, and to link theory with practice; in short, to learn in a meaningful way rather than to memorise and regurgitate. The Curriculum in Action study should attempt to see how far this is true in practice.

3.3 Content

The modules cover a range of types of knowledge, as would be expected. The syllabus itself classifies the modules under ‘content’ and ‘methodology’:

Content (8 modules):

- Curriculum Studies
- Introduction to Educational Psychology
- Early Primary Education
- Special Education
- Guidance and Counselling
- Sociology of Education
- Philosophy of Education
- Educational Administration and Management

Methodology (7 modules):

- Teaching Methods
- Educational Resources
- Micro-teaching
- Research methods
- Testing and Evaluation
- Teaching Practice Preparation
- Information and Communication Technology

Using the Shulman categories, much of this would fall under ‘general pedagogic knowledge’, though it also includes a considerable amount of skills development. The following table shows how the modules are spread over the categories.

Table 4: Education Modules classified by type of knowledge

CATEGORY	Year 1	Year 2	Year 3	Totals
General Pedagogic Knowledge	3	2	-	5
Curriculum Knowledge	1	-	1	2
Knowledge of Learners	2	1/2	1/2	3
Knowledge of Educational Contexts	-	1/2	2 1/2	3
Knowledge of Educational Aims and values	-	-	1	1
Knowledge of Research	-	1		1
Totals	6	4	5	15

Notes. Where a module apparently covers more than one type of knowledge, it has been divided.

The sequence appears to be: to start with the classroom and with basic understanding of children, and to move towards the wider context.

3.4 Assessment

There is an assessment at the end of each module as well as exams at the end of Years 1 and 3. These vary in type and include 4 tests, 4 assignments, 3 projects, and one each of: practical, portfolio, evaluative report, and essay. There seems an intention to ring the changes and to make the assessment match the content and learning aims.

3.5 Teaching/Learning Methods and Materials

Nothing is explicitly said about pedagogy, except that micro-teaching is included, but the implication of the high-level objectives, and the variety of assessment, suggest an interactive, student-centred approach.

There are short lists of both prescribed texts and reference books. An analysis shows that out of a total of 25 books listed, 14 were published before 1990, and none were written or published locally, although there are local texts which would be helpful. This is inconsistent with the overall course aims of relating education to Basotho culture. Particularly out of date are: Bigge (1974) *Learning Theories for Teachers*, and Ozmon & Craver (1976) *Philosophical Foundations of education* - the latter is a prescribed text.

3.6 Comments

Apart from the materials, and the pedagogy, about which the document is silent, the ‘curriculum strategy’ of the course appears to be reasonably consistent. The objectives are neatly aligned with the content modules, and the assessment pattern is linked to both in most but not all cases. It is not clear, for example, how one assesses through a test whether students can ‘apply theories of learning to the teaching/learning situation’ (objective d), or whether a project is the best way to assess the ‘demonstration of skills in a variety of relevant teaching methods’ (obj. e) Table 5 shows a detailed analysis of Year 1 as an example.

The titles of the modules suggest a fairly traditional approach, with sociology and philosophy taught separately rather than integrated under themes. Children’s learning is not highlighted, presumably taught under ‘psychology’. One cannot tell where and how, or indeed whether, practical and relevant problems are dealt with, such as handling large or multi-grade classes. There is no mention of gender, which in the Lesotho context involves under-achievement of boys

Nor does it seem consistent with the broader aims of the programme as a whole. There is little here about developing reflection, skills of co-operation, or about the teacher becoming a change agent in the community. Basotho traditions and culture do not appear to be discussed. Since content and methodology are explicitly separated, it looks as though the integration of theory and practice is not a high priority for the designers.

Table 5: Analysis of Year 1 of Education to show links between topic, objectives, and assessment

Module	CATEGORY	Topic	Objectives	Assessment
1	Curriculum knowledge	Curriculum Studies	a) define and explain the meaning of curriculum, curr. design models, curr. issues and the national curriculum b) analyse and evaluate curriculum issues in relation to Lesotho Prim. Ed.	Test
2	Knowledge of learners	Educational Psychology	c) describe in a general way the field of psychology d) describe and apply theories of learning to the teaching/learning situation	Test
3	General Pedagogic Knowledge	Teaching Methods	e) Through theoretical study and practical experience, demonstrate skills in a variety of relevant teaching methods suitable for delivery of the primary curriculum.	Project
4.	GPK	Educational resources	f) demonstrate the ability to prepare and use relevant teaching aids effectively	mini-project
5.	Knowledge of learners	Early Primary Education	g) identify issues in relation to early childhood development and analyse their implications for learning.	assignment
6	GPK	Micro-teaching	h) through micro-teaching demonstrate and evaluate different teaching skills that may be used in a variety of classroom situations.	practicals

CHAPTER 4

ENGLISH

4.1 Aims

The aims are broad and encompass: the development of students' own abilities in English, understanding and appreciation of literature through studying the novel, plays and poetry, equipping them with skills and techniques of teaching ESL and children's literature, and to interpret the primary syllabus along with related teaching materials.

4.2 Objectives

The objectives are mostly stated in terms of 'demonstrate' or 'possess' certain knowledge and skills. They are not very closely matched to the content; while just over half the objectives address pedagogic knowledge or practical teaching skills, only a third of the content is aimed at this area.

4.2.1 Content

The content is different from the other main subjects as it appears to include teaching students oral and written skills for their own development as writers and teachers, though the wording does not make it this quite clear. Overall, half the course is devoted to subject content - English grammar and English literature, including the novel, plays and poetry - and half to methods of teaching English combined with personal skills development. (In their classification, the latter come under 'content' rather than 'methodology', giving a 3:1 ratio).

Table 6: English Modules classified by type of knowledge

Category	Bridging	Year 1	Year 2	Year 3	Total
Content Knowledge	5	2	2	1	10
Pedagogic Content Knowledge	-	2	1	2 1/2	5 1/2
Curriculum Knowledge	-	-	1	-	1
Personal Communication and writing skills	-	2	-	1 1/2	3 1/2
Totals	5	6	4	5	20

A detailed analysis of Part 1 of the syllabus (the bridging course and Year 1) shows up a considerable mismatch between the stated objectives and the content. Table 7 shows how the

first three semesters are heavily weighted in favour of subject content, and one key pedagogic objective ('to possess broad knowledge of teaching techniques, approaches, methods for teaching ESL and the ability to critically assess them') is not addressed at all, though it reappears, without the 'critical' note, in Year 3.

Similarly, in Year 2, objective (h) - 'techniques for managing large classes' - is not mentioned under any module, and objective i) - 'knowledge of language teaching methodologies' - appears under a module on Lesson Planning rather than under the module called 'Advances in English Teaching Methods'. This may simply be sloppy editing, but the Curriculum in Action study should try to find out whether these essential objectives are indeed properly dealt with.

Table 7: English Part 1 (first 3 semesters) showing objectives linked to modules and to time allocation

OBJECTIVES	MODULES	HOURS
Content Knowledge		
b) possess a basic functional knowledge of the English grammatical system	1. Grammar: parts of speech 2. Grammar: basic elements of an English sentence 3. Grammar: clauses 4. Grammar: synthesis 5. Grammar: verb tenses	75 (all in bridging course)
f) demonstrate an understanding and appreciation of literature in English through the medium of the novel	6. Literature: The Novel 10. Literature: The Novel	15 7.5

Pedagogic content knowledge		
a) demonstrate broad knowledge of L1/L2 learning/teaching theories and ability to critically assess them	11. Language Learning/Teaching Theories: Language teaching approaches, communicative & contextual	7.5
c) possess broad knowledge of teaching techniques, approaches, methods for teaching ESL, ability to critically assess them	[not mentioned against modules]	0
e) possess in depth understanding and practice in the contextual and communicative approaches to language teaching	11: Language Learning/Teaching theories: language teaching approaches.	7.5
g) possess a functional knowledge and critical understanding of techniques and methods for necessary teaching reading and the novel to primary school pupils	7. The Teaching of Receptive Skills: reading comprehension 10. Literature: The Novel	15 7.5
Skills		
d) demonstrate skills in continuous writing	8 & 9. Productive Skills: composition writing	30

4.3 Assessment

The suggested assignments are quite varied. In the bridging course, only tests are given, presumably in keeping with the aim of teaching grammar. In the other parts of the course, there are some tests, some 'exercises', three essays, two assignments on lesson planning and developing materials, two projects (one on creative writing) and 'oral and written comparative/contrastive discussion' (of language teaching approaches). It is not easy to judge exactly how well these will assess the achievements of the objectives, particularly as multiple objectives are often given for one module.

4.4 Teaching/learning methods and materials

It can be inferred that the bridging course is taught in a fairly didactic and traditional manner, and most of the 'content' modules as well. Some of the assessment for 'methodology' modules suggest a more interactive approach, though there is no indication that 'communicative methodology' is going to be modelled in the college classrooms.

The prescribed texts include the primary English syllabus, grammar books, thesaurus and dictionary, and the prescribed novels, plays and poems to be used both with the trainees and in the primary classrooms. There are 23 recommended texts, nearly all to do with grammar and language teaching, apart from one on drama and two on poetry. None were published in Africa, and only four were published post-1990.

4.5 Comments

There is a clear emphasis here on improving trainees' own English language abilities, through the study of grammar, and by paying attention to developing their personal communication and writing skills. English literature is foregrounded, with modules on novels, plays and poems, which are to be studied from two points of view: for enriching the trainees' knowledge and understanding, and for teaching literature to primary pupils. The course is clearly linked to the primary syllabus, and includes both theories and practical approaches to ESL teaching. Whether there is sufficient space given to practical classroom skills, particularly to the teaching of reading and writing, and to remedial work in upper grades, seems doubtful.

CHAPTER 5

MATHEMATICS

5.1 Introduction

The maths curriculum is difficult to analyse for several reasons: the aims appear in part inconsistent with the rest, not all objectives are clearly defined, and some of these are not linked to content.

5.2 Aims

These are rather diffusely expressed, but may be summarised as:

- Bridging course and Year 1: to prepare students to teach maths effectively in primary school
- Year 2: in addition to the above, to upgrade their own mathematical knowledge
- Year 3: to continue with both these, and to introduce students to research.

However, the rest of the curriculum strategy displays a very different pattern.

5.3 Objectives

There are long lists of objectives (22 in BC/Year 1, 6 in Year 2, 8 in Year 3). Out of this total of 36, 29 concern mathematical knowledge, and are phrased as such:

- *construct* geometrical shapes, angles and lines
- *use* statistical tools of analysis
- *solve* simultaneous linear equations

In the 6 objectives related to pedagogic content and curricular knowledge, students are required to:

- *review* and *critique* the primary maths syllabus, *relate* it to theories of learning, and *formulate* teaching strategies (Year 1).
- In Year 2 they are to *construct and use* mathematical models for teaching, and *relate* games to mathematics teaching and learning.
- The Year 3 syllabus has no clear relevance to teaching, although it includes *conducting* a qualitative research project of an unspecified nature.

5.4 Content

In contrast to what is stated in the aims, the content consists mainly of mathematical content knowledge, as the table below shows:

Table 8: Maths Modules classified by type of knowledge

Category	Bridging	Year 1	Year 2	Year 3	Total
Content Knowledge	5	5	2	4	16
Pedagogic Content Knowledge	-	1	2	-	3
Research	-	-	-	1	1

The module on PCK in Year 1 covers a study of the primary school syllabus, lesson planning, and strategies for general and remedial maths teaching. In Year 2 they cover how to make and use mathematical models in the classroom and ‘ethnomaths’ (use of traditional and foreign games as teaching tools).

5.5 Assessment

This is focused mainly on cognition and consists largely of class-based tests. (One apparent anomaly is that in Year 1, they last one hour, in Year 2 they last 3 hours, and in Year 3 they last 2 hours.) There are 3 projects, and two assignments, one on the primary maths syllabus and one on trigonometry. The only practical assessment is on the use of mathematical models, which consists of demonstration lessons in groups.

5.6 Teaching/learning methods and materials

Apart from the reference to groupwork in the assessment above, there is no indication of what methods are to be used. The implication is a traditional secondary school teaching approach.

The prescribed texts comprise three sets of books, which appear to include both GSCE and primary textbooks, but not the primary maths syllabus. Of the 16 Reference texts, all but 2 are published before 1990. In the Year 1 list, some of the references are incomplete i.e. two do not include the book’s title. Local textbook series are included, and one book on maths teaching is by an African author.

5.7 Comment

Overall, the course is heavily biased towards content knowledge rather than pedagogy. The knowledge level appears to be slightly above O level. It is not clear how this is related to the primary maths syllabus.

There does not seem to be an overall consistent curricular strategy. In particular, while the aims stress the training of good primary teachers, the course as a whole gives comparatively little time to 'maths education' as such, or to the particular needs of primary children in learning maths. There is only one mention of practical work; no mention of how to make and use inexpensive maths materials from locally available materials.

CHAPTER 6

SCIENCE

6.1 Aims

The broad aims for the whole course are:

- to develop a further understanding of science concepts, skills, and methods, along with positive attitudes towards nature and science;
- to acquire and apply contemporary methods of teaching science to primary school pupils,
- to appreciate the applications of science in everyday life, and to increase awareness of the impacts of science on environment and society.

These seem well-balanced, though they do not relate closely to the overall aims of the programme

6.2 Objectives

The objectives, however, are mainly directed towards the acquisition of scientific knowledge. For example, in Part 1, there are 22 specific objectives, of which 16 are aimed at ensuring that student gain science content knowledge; only five seem to address the issue of pedagogical content. Objectives for Year 2 also emphasise content knowledge, while just three of the objectives address the primary school curriculum issue with specific reference to Lesotho. Year 3 follows a similar pattern but includes one objective about enabling student teachers to reflect critically on their teaching practice. However, much of the science content has a practical slant, as can be seen from Table 9.

Table 9: Verbs used in setting out objectives for science in Year 1

Educational objectives	Verbs stating the objectives	Frequency
Cognitive	Classify	1
	Describe	5
	Undertake	1
	Apply a concept	1
	Explain	3
	Compare and contrast	1
Total		12
Practical skills	Demonstrate	7
	Use	1
	Write	1
	Identify	1
	Apply methods of teaching	1
Total		11

6.3 Content

This course focuses on equipping students with science content knowledge in biology, physics and chemistry. There are five modules each for Biology and Physics, and four for Chemistry, taught in rotation throughout the course. Some of these include laboratory skills. While some of the ‘methodology’ modules cover teaching methods, only Module 5 in Year 3, on ‘contemporary issues’ and ‘concept formation’ looks likely to offer students conceptual frameworks in ‘science education’.

Table 10: Science modules classified by types of knowledge

CATEGORY	Bridging	Year 1	Year 2	Year 3	Totals
Content Knowledge	4	4	3	3	14
Curr. Know.	1		1/2		1/2
P.C.K.		2	1/2	2	4 1/2
Total	5	6	4	5	20

6.4 Assessment

Assessment of the science subjects in Part 1 is through two laboratory reports, four class tests, one library test, one group report, two essays, one and mini project. The four Year 2 modules are each assessed by a ‘major project’, and Year 3 by two 1000-word essays (on methodology) and three practical tests (on the content). There appears to be no practical classroom work nor peer teaching.

6.5 Teaching and Learning Methods and Materials

It seems from the verbs used in formulating the objectives and from the assessment pattern, that teaching methods will include demonstrations and practical applications of science by students. There is, however, no mention of fieldtrips, or of demonstrating in college methods suitable for primary classrooms.

The science department provides a long list of prescribed and references materials. Six of these relate to teaching techniques, 23 are on science content and one is on assessment techniques. The reference and prescribed books are the same for the three years of study. Both prescribed and reference texts were mostly published in the 1980s, with only six after 1990. The primary science syllabus is not included.

6.6 Comments

This is a content-heavy course, which teaches the subjects separately from the methods. From the references, it looks as though the content aims to bring trainees closer to A level than to O level.

It is hard to judge how internally consistent it is. The aims suggest a much wider course than is shown in objectives and content, though the two latter are closely linked. Little space seems to be given to ways of actually teaching science in primary schools.

Without further documentation, it is unclear exactly how the various assignments are supposed to assess the achievement of the multiple objectives, particularly with the 'essays' and 'projects'. Table 11 (overleaf) shows the structure of Part 1 in detail: all the objectives are covered, and the assessment suggestions seem suitable for the content objectives. In Module 8, on Teaching Science, a 'group project' seems appropriate. Module 11, on 'methodology' is more problematic. It seems odd to try to assess the objective 'apply different methods of teaching' by a 500 word essay.

Table 11: Analysis of Year 1 of Science to Show Links between Content, Objectives and Assessment

Module	Category	Topic	Objectives	Assessment
1	Content knowledge	Biology	a) Classify living things b) Describe the nature of enzymes and their role in maintaining the life process c) Describe processes involved in the movement of substances in and out of cells	Test and project
2	Content knowledge	Chemistry	f) Demonstrate skills in experimental techniques, measurement, and safety awareness in the laboratory g) Describe properties, compositions and uses of water and air h) Demonstrate their understanding of the structure of atoms, distinguish between elements, compounds, and mixture, and conceptualise bonding and different types of bonding j) Use the periodic table as one way of classifying elements and predicting their properties	Report on lab experiment
3	Content knowledge	Physics	f) Same as in module 2 i) Apply the mole concept to chemical changes and the energy changes involved	Library test
4	Content knowledge	Nature of science	q) Describe the nature and philosophy of science r) Demonstrate an understanding of processes, products, attitudes, limitations and moral aspects of science	Essay
5	Content knowledge Research knowledge	Biology	d) Describe the processes of nutrition, transport, respiration, homeostasis and support in plants and animals e) Undertake an independent ecology study	Mini project
6	Content knowledge	Chemistry	f), g) and h) as in module 2 k) Explain and apply the principles of redox	Test
7	Content knowledge	Physics	f) Same as in module 2 n) Explain the conditions of equilibrium and stability and investigate the principle of moments	Report on laboratory experiment
8	General pedagogical knowledge	Teaching science	s) Write short and long plans for teaching science t) Identify and use locally available materials u) Compare and contrast different forms of assessment v) Demonstrate their understanding of different methods of teaching science	

9	Content knowledge	Biology	d) Same as in module 5 f) Same as in module 2	Group project
10	Content knowledge	Physics	f) Same as in module 2 m) Demonstrate an understanding of effects of heat on matter, differentiate heat from temperature and describe ways of heat transfer p) Explain basic properties of matter using the particulate and kinetic theories of matter	Test
11	General pedagogical knowledge	Teaching	v) Same as in module 8 w) Apply different methods of teaching	Essay

CHAPTER 7

SUMMARY AND EMERGING RESEARCH AGENDA

7.1 Summary

First, it should be said that the document gives only the bare bones of the curriculum. As course outlines become available, these will flesh out the picture and enable a better judgement to be made. The following comments are thus preliminary and indicate some areas that should be explored further in a study of the curriculum in action.

There appears to be a striking difference between the overall aims and objectives for the programme as a whole, which are framed in terms of broad professional competences, and those for the subjects, which are much more narrowly conceived, mainly to do with cognition, and only distantly related to the professional classroom competences. For example, no course mentions learning to solve practical problems in school, nor how to assess one's own teaching. The only mention of 'reflection' comes in one of the science objectives. It is not clear where and how students are going to learn skills of co-operation, or how to act as a change agent in the community.

The two sets seem to come from different discourses or paradigms: the overall aims seem to propose the 'reflective practitioner' model of teacher preparation, while the subject aims point to the 'effective instructor' model. Possibly this comes from the way the programme was drawn up. The Curriculum Committee listed in the document only contains 4 members of the Primary Division (out of 20). There is an Irish advisor (T.Williams), and Dr. Sugrue and, while it is clearly an NTTC-owned programme, there may have been some tensions between the Irish advice and the traditions of NTTC, or between the Primary and Secondary Division staff.

There is a superficial similarity across the different subjects, but some appear more internally consistent than others. It looks as though every department was given strict guidelines to follow when drawing up the curriculum document. Thus each subject has been poured into the same mould, even where they emerge out of very different traditions and disciplines. It is bureaucratically neat, but one wonders whether this might not distort the picture of what they actually intend to teach?

Theory and practice seem deliberately separated, yet the rationale explicitly calls for teachers who can integrate them. This is a strange contradiction. Perhaps it is assumed this occurs in teaching practice, but the document does not discuss the practicum at all. We need to know how it is integrated with the rest of the programme, and how it is expected to help achieve the overall aims. Giving TP a numerical mark goes against international trends of assessing teaching competences 'holistically'.

There are only occasional mentions of the real practical problems of teaching and learning in Lesotho classrooms, yet any useful and effective preparation programme must take these into account. There is no mention of how Basotho culture interfaces with Western culture; the document is silent on gender issues. This raises the question: how relevant are these courses going to be to the work of new teachers?

The almost complete absence of any discussion of pedagogy makes it very difficult to assess how this curriculum will actually work in practice; how far it will accommodate students' needs, how far it will help them internalise principles of good teaching, how far it will foster the attitudes and dispositions mentioned in the overall aims. In the following section there are some questions arising from this analysis.

7.2 Some questions to be pursued

- How far do the tutors follow the new DEP programme exactly, how far do they continue to teach what they taught in PTC? (Evidence might be found by comparing the departmental course outlines for the two, and from interviews).
- How far do the tutors consider the aims and objectives for their subject, and how far are they following the overall ones?
- What kinds of teaching and learning actually go on in the college classrooms, and how big are the groups?
- What assignments are set, how are they marked, and how well do they test the stated objectives? Any sign of 'exam backwash'?
- Which of the books listed are actually used?
- In education, how far are the students challenged to think critically?
- In English, how much time is given to methods of teaching reading and writing and to ESL methodology?
- Has the bridging course succeeded in improving trainees' own language skills to the requisite level?
- In Maths, how is the maths education incorporated?
- In Science, how far are problems of science education dealt with?
- How are the research modules taught in Education and Maths, and do they overlap? What relevance does this research training have for trainees?

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Appendix 1: Analytical framework for analysing curriculum content

Here we have drawn on Lee Shulman's (1987) conceptualisation of the 'knowledge base' thought desirable for teachers. He identifies the following categories of types of knowledge:

- **content knowledge:** subject specific
- **general pedagogical knowledge:** broad principles and strategies of classroom management and organisation
- **curriculum knowledge:** the syllabi and materials used in the school curriculum
- **pedagogic content knowledge:** 'that special amalgam of content and pedagogy that is uniquely the province of teachers, their own special form of professional understanding
- **knowledge of learners** and their characteristics
- **knowledge of educational contexts:** the school, community and nations; how they support schooling
- **knowledge of educational aims and values:** their history and philosophical underpinnings

(adapted from: Shulman L.S. (1987) *Knowledge and Teaching: foundations of the new reform*; in Harvard Educational Review Vol. 7 No. 1)

'Knowledge of research' has been added.

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ISBN 0 905414 47 0

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