

***A COMPARATIVE STUDY OF L1 AND EFL READING ABILITIES
AMONGST JUNIOR PRIMARY STUDENTS USING DIFFERENT
READING SCHEMES IN BLACK SCHOOLS***

THESIS

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ABSTRACT

This thesis examines the development of children's reading skills, in both the mother tongue and English as a foreign language, during their first four years of school. It is an attempt to enter the reading world of very young learners in underdeveloped, mainly rural communities in search of practical insights into the teaching of reading in the junior primary classroom.

The research focuses specifically on two approaches to reading instruction. The first is the approach traditionally used in black South African schools, characterised by teacher-centredness and rote-recall techniques. The second is a more progressive and communicative approach encapsulated in the language courses of the Molteno Project. Both approaches, and their theoretical underpinnings, are described in some detail. The context of language-in-education policy in South Africa is also reviewed. The research then tests the hypothesis that a communicative approach to reading pedagogy produces measurably better results in pupils than more traditional methods.

The research explores the use of quantitative methods of evaluation, giving justification for their use, and examines the practicability of standardised EFL tests at junior primary level. Existing tests are evaluated and found wanting. The process of developing and administering original hybrid-communicative tests is described. The results of these, which were administered over four years to a total of some 6 000 pupils across the first four years of school, are assessed. Implications for testers, teachers, educational administrators and educational NGOs are extrapolated.

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NOTES

1. Abbreviations

The following abbreviations are used in this thesis:

- DET** - The Department of Education and Training, a government department responsible for all black education in South Africa during the period covered by this research. Education departments in the self-governing black "homelands" were modeled upon the DET and usually followed its lead.
- EFL** - English as a Foreign Language; the learning situation for most black pupils in South Africa, whose mother tongues are unrelated to English and who are usually exposed to other African languages earlier and more frequently than to English.
- EMI** - English as Medium-of-Instruction; the situation which prevails in most black schools from the fifth year onwards.
- HSRC** - The Human Sciences Research Council, a South African para-statal research institute.
- KPLP** - The Kangwane Primary Language Project, a large-scale implementation of the Molteno Project's courses in half the junior primary schools in Kangwane, a self-governing territory in South Africa; part of this research was conducted in KPLP schools.
- MP** - The Molteno Project, an educational NGO in South Africa, upon which much of this research focuses. The abbreviation is used only in tables.
- NGO** - Non-governmental Organisation, an independent, donor-funded development agency.
- ODA** - The Overseas Development Administration, a British government department responsible for administering overseas aid, of which the Molteno Project is one recipient.
- PEUP** - The Primary Education Upgrading Programme, the name used by two separate education department initiatives (in the former "homelands", Bophuthatswana and Venda), aimed at improving the quality of education in junior primary schools. Both programmes made extensive use of the Molteno Project's

language courses.

2. School-Year Nomenclature

Under its pre-1995 dispensation, education in South Africa was apportioned among as many as 18 different administrations at a time. The naming of the various years of schooling varied amongst these education authorities. The following summary may be useful:

First year of school	=	SSA/ Sub-Standard A/ Sub-A/ Grade 1
Second year of school	=	SSB/ Sub-standard B/ Sub-B/ Grade 2
Third year of school	=	Std 1
Fourth year of school	=	Std 2
Fifth year of school	=	Std 3
etc.		

In this thesis, the author follows contemporary DET practice of referring to the first two years of school as **SSA** and **SSB** respectively.

3. Gender References

Throughout this thesis, junior primary teachers are referred to in the feminine gender - *she*, *her* and *hers* - since women make up the overwhelming majority of their ranks. In referring to other persons of no particular identity, masculine and feminine pronouns are used alternately.

CHAPTER ONE

BACKGROUND, CONTEXT & AIMS

1. INTRODUCTION

Of the many obstacles which face black South African pupils on the path to education, the problem of language is one of the most daunting. It is widely accepted that a major cause of the high failure rate amongst such pupils is their low level of reading proficiency in English, the principal medium of instruction. This is a strong theme in educational research in South African schools, exemplified by the research of, amongst others, Rodseth (1978), Lanham (1967, 1982, 1986 & 1990), Pillay (1988), Kroes & Walker (1988), Van Rooyen (1990), MacDonald (1990) and Langan (1990). The prevailing policy in most black schools is for instruction to be through the medium of the mother tongue for the first four years, during which English is taught as a subject; thereafter, English becomes the medium of instruction and the mother tongue an ordinary subject. Thus, weakness in English limits later learning in all subjects.

In tracing the root causes of the low standard of English reading proficiency, studies frequently point to a failure on the part of most pupils to master basic reading skills even in the mother-tongue during their first year of school. Deficiencies in reading are then carried over to the learning of English in the second and subsequent years, with disastrous consequences for the pupils' ability to learn through the medium of English from the fifth year onward. Rodseth (1978:93) asserts that:

The roots of the "English-reading-problem" lie in the pre-English-reading vernacular stage.

Lanham concurs. In a review of research into language teaching in black primary schools (1982:1), he establishes a direct link between pupils' primary school experience and their difficulties at a later stage in life:

- *The most conspicuous of failures with the most serious consequences is the failure to learn to read.*
- *Black children fail to master English reading because they have in fact failed to acquire basic reading skills in the mother tongue.*
- *The failure of the primary school to lay an effective foundation in the early stages of learning English is the source of the failure to learn English for education and living.*

Pillay (1988) supports Lanham's contentions in his own analysis of the difficulties experienced by black high school pupils in reading content-subject textbooks. He finds that the pupils' reading strategies are generally inappropriate to and inadequate for the texts through which they are expected to accumulate content-subject knowledge. This theme is taken up by Langan (1990) who shows that problems are already present to a significant degree at the time of pupils' first encounter with textbooks in Std 3. Langan argues that this is a result of both the unsuitability of the texts for young foreign-language pupils and of the teachers' own linguistic and language-methodological limitations. These two aspects are elaborated upon, respectively, by Van Rooyen (1990) and Macdonald (1990). Van Rooyen, using a sample of Bophuthatswana schools, compares the ideal outcomes of two junior primary English language teaching schemes with the demands of two Std 3 science textbooks. She concludes that, on every point of analysis (syntax, vocabulary, cohesion, coherence, and locutionary act/ illocutionary force combinations), there are large discrepancies between outcomes and demands. Macdonald extends this research to demonstrate how inadequately prepared black

children typically are for the transfer from mother tongue to English as medium of instruction.

Such findings are in line with research conducted elsewhere by, for example, Saville-Troike (1976), Escobedo (1983), and Hudelson & Barrera (1985). Saville-Troike examines the experience of immigrant children in English-medium American schools and concludes that their acquisition of both formal education and knowledge-based life skills are impeded by the obstacle of inadequate English proficiency. She argues for earlier and greater attention to the language issue in schools, particularly through bilingual programmes that link the pupils' mother tongue language experience to the acquisition of English language proficiency. Hudelson & Barrera (1985) are particularly relevant to the South African context in that they address the problem of EFL reading instruction in an environment where, as in the case of most black South African primary pupils, there is little support for English outside the classroom; Hudelson & Barrera's suggestions on the use, in such situations, of a language-experience approach coupled with teacher-generated texts and realia for reading instruction, have practical value for South African classrooms.

Thus, it may be said that, in South Africa and abroad, recent research into primary EFL teaching for an English-medium environment supports Carrell's (1988:1) general statement that:

For many students, reading is by far the most important of the four skills in a second language... Quite simply, without solid reading proficiency, second language readers cannot perform at levels they must in order to succeed, and they cannot compete with their native English-speaking counterparts. (p1)

The specific nature of the reading problem in black South African education, and the light which researchers cast upon it, will be discussed in more detail in Chapter

Two but its origins in official language-in-education policy deserve some immediate description.

2. LANGUAGE IN EDUCATION POLICY

Language policies have long mirrored the ebb and flow of power relationships within the state and the prevailing ideology of government. This complex process has in recent years been well documented and analyzed (see, for example, Hartshorne, 1987 & 1992; Molteno, 1984; Kallaway, 1987; Burroughs, 1989; Macdonald, 1990; NEPI, 1992; Chick, 1992).

Essentially, the aforementioned researchers agree that official language in education policy has been determined more by ideological than by pedagogical considerations. Quoting Hawes, Hartshorne (1987:63) acknowledges that there is a political thread woven into the fabric of education policy everywhere, but argues that in South Africa it is remarkably broad:

"Language policies for education are highly charged political issues and seldom if ever decided on educational grounds alone" (Hawes, 1979:76). This is particularly true of the experience of bilingual and multilingual countries, among them South Africa, where decisions on language in education have had to do with issues of political dominance, the protection of power structures, the preservation of privilege, and the distribution of economic resources.

In South Africa, language policies in African education from 1910 onwards have reflected not only the relative positions and status of the languages concerned,... but more importantly the relative political and economic power of the sectors of South African society... For the greater part of the period, the interests and wishes of the users of African education (parents, teachers, pupils) were subordinated to

the political purposes and ideologies of White groupings.

Hartshorne further shows that, in the period 1910-30, this translated into a policy of enforcing parity in the use of the two official languages of the Union, English and Dutch (replaced in 1925 by Afrikaans). The equality of the two official languages was entrenched in Article 137 of the constitution, and the promotion of Afrikaans in state schools was part of a larger process of implementing this constitutional obligation in all aspects of public administration. The government's focus, however, was on white education, where Afrikaans children were guaranteed mother-tongue instruction for at least the first four years of school and where concerted attempts were made by both public and private agencies to extend the use of Afrikaans. Little attention was given to black schools, where by and large the *status quo* was allowed to prevail. In practice, this almost always meant that English was the medium of instruction from an early stage - a legacy of mission school influence and British colonial administration. The government's rather *laissez faire* policy in black education - which may appear somewhat surprising in view of later developments - was based not on pragmatism but on indifference. Chick (1992:274) notes:

It is a reflection of the extent to which the multilingual nature of society was ignored, and the needs and wishes of black people subordinated to those of white people, that language policy for the education of blacks was not statutorily prescribed.

A logical consequence was that instruction in African languages was neglected. The vernaculars were not made a compulsory part of the curriculum until 1922, though official reports had previously indicated the need for such status¹. Nevertheless, there was some movement in favour of African languages, particularly amongst mission schools. In 1935 the Welsh Committee (cited in

¹ Hartshorne (1987:66) gives details of two such reports from the Cape (1908 and 1919).

Hartshorne 1987:66) reported that in all the provinces a vernacular was a compulsory subject in all primary schools and teacher-training colleges, and was taken as a subject by almost all secondary school pupils. A vernacular was also used as medium of instruction for the first six years of school in Natal, the first four years in the Cape and the Orange Free State, and the first two years in the Transvaal - followed in almost all cases by English. This remained official policy-by-default until 1955.

The ascendancy of the National Party and its ideology in the period 1948-1975 brought about far-reaching changes in education, as in other aspects of South African society. There was never any doubt about the government's views on the education of blacks. Hartshorne (1978:68) quotes one of the main sources of government policy in education at this time, the Instituut vir Christelike-Nasionale Onderwys, as stating:

Any system of teaching and education of natives must be based on these same principles (trusteeship, no equality and segregation) ...[and] must be grounded in the life and world-view of the Whites, most especially of the Boer nation as the senior white trustees of the native... The mother-tongue must be the basis of native education and teaching but... the two official languages must be taught as subjects because they are official languages...

In 1953, in terms of the Bantu Education Act, a newly-created, centralised department - the Department of Bantu Education - took over control of black education from the provinces and mission schools with the task of implementing these principles. The motivations for the resulting changes in language education policy were overtly political. In Hartshorne's words (1992:197):

What was clear from the beginning was that the concern was as much for Afrikaans as for the development of mother tongue

instruction, and that the intention was to reduce the influence of English.

Kallaway (1987:38) characterises language policy in black education since 1948 as being part of a broader attempt to

promote a specific "culture" that was said to be the unique inheritance of the Bantu... [and] to bring educational policy in line with general apartheid policy.

In short order, and in line with the recommendations of the 1951 Eiselen Commission on language issues in black schools, several important steps were taken to implement the new language policy. Afrikaans was introduced as a subject into all schools and colleges in Natal and made compulsory in the Cape, and teachers in service were given five years to learn Afrikaans themselves. Schools were also required, without exception, to extend the use of the mother tongue as medium of instruction through to Std 6 by the end of 1959. Both English and Afrikaans were to be introduced as subjects in the first year of school, making the language-learning load on SSA/Grade 1 pupils - three languages, of which two were foreign - exceptionally heavy. In secondary schools, both English and Afrikaans were to be used as media of instruction from the first year onwards. Such impositions were typical of the uncompromising and doctrinaire approach to language issues which was to prevail for the next twenty years.

Opposition on both educational and ideological grounds was immediate and widespread. Many teachers resigned rather than implement policies that seemed to them to be iniquitous. Hartshorne (1987:74-5 & 1992:198) relates how professional bodies such as the Cape African Teachers' Association, the African Teachers' Association of South Africa and the Advisory Board for Bantu Education, as well as organisations like the South African Institute of Race Relations and the South African Council of Churches, repeatedly petitioned the Department to reconsider its policy. Even school boards, articulating the wishes of parents, were

sometimes bold enough to challenge the Department. No change was forthcoming.

The authorities attempted to justify their policies on educational grounds, namely that early mother-tongue education enabled children to learn through the medium of a known language, and that

the two official languages must be taught because they are... the keys to the cultural loans that are necessary to [African] cultural progress. (ICNO, Article 15, quoted in Hartshorne, 1992:196)

To Chick (1992:275), the reality was somewhat different:

From an educational perspective, the use of the mother tongue as medium in the primary school had the advantage of allowing teachers and pupils to learn through a language in which they were competent. However, in the minds of the black community, such advantage was overshadowed by the realisation that educational motives were secondary to political ones. Consistent with apartheid ideology, mother-tongue instruction prepared the different language groups for a separate existence. Concurrently, the policy, by emphasising language differences, served to divide and rule black people. It also set a ceiling on their advancement by obliging them, in high schools, to learn content subjects through two 'foreign' media.

Policy is one thing; practice is another. And the new language policies, owing to their complexity and to the logistics of black education, were not easy to implement. In time, it became apparent even to senior officials remote from the schools that policy was not, in fact, being implemented strictly according to Departmental regulations. Some dissenting officials, mainly at circuit level, were permitting flexibility to the extent that their own limited powers made possible.

(Hartshorne, 1992: 202). That Hartshorne himself is an example of these is evidenced by the autobiographical first chapter of his *Crisis and Challenge in Black Education 1910-1990* (1992). There were others (Hartshorne, 1992:17).

At the same time, to the dismay of all inspectors, there was the inescapable fact that teachers were in many cases not qualified to teach in the languages required of them. Such teachers simply did what they could, in whatever language they could.

More damaging from a political point of view was the fact that the homelands, nominally in control of their own education departments, began from 1963 to edge away from central government policy. In that year, Transkei reduced the use of the vernacular (Xhosa) as medium of instruction to the first four years only of primary school; English became the sole medium of instruction for senior primary and secondary schools. By 1974 all the homelands had adopted similar policies. Effectively, this meant that the dual language policy was being negated in about a third of all black schools. Moreover, the homelands began to argue with Pretoria that they held extraterritorial rights regarding the education of children born of their citizens in urban areas. This was potentially a foreign bacillus in the sealed bottle of Bantu Education.

The response of the Department to these exigencies was to tighten up regulations. Hartshorne (1992:201-202), an insider and an eyewitness to these events, describes the official reaction:

Once more the interests of the pupils were subjugated to political considerations... From about August 1974, a doctrinaire line began to be followed, both in the field, particularly in the Transvaal, and in the control section of the Department that was responsible for considering applications for exemptions from the policy ... In the Transvaal the two regional directors also laid down which subjects were to be taken in Afrikaans... and no initiative was left to the schools to take into

account the language strengths or weaknesses of their subject teachers.

So great was the community's resentment of these strictures that confrontation was inevitable. The spark to this tinder was the dismissal by the Department, early in 1976, of two members of a Soweto school board which had defied policy by instructing its schools to use English only from Std 3. This led in turn to a stay-away by high school pupils and subsequently to a major student uprising - the "Soweto Riots" of June 1976.

In July the authorities conceded that one medium only, to be decided by the school, could be used from Std 5 upwards. Act 90 of 1979 moved the threshold down to Std 3 by stipulating mother-tongue instruction for the first four years of school, followed by a language of the school's choice. Thereafter, the almost universal practice in black state-run schools was to follow the mother tongue with English as medium of instruction from Std 3. English was also taught as a subject from the second year of school onwards in preparation for the sudden transfer to English as medium of instruction in all subjects at the beginning of that fifth year.

In all of this, it may be seen that a constant and critical element in official thinking was that highlighted by Chick (1992:273; original emphasis):

Historically, language planners in South Africa have approached the task of formulating and implementing language education policies from the viewpoint that language diversity is a problem that needs to be solved... Because of the undemocratic nature of society, official language education policies offered as solutions to the 'problem' of language diversity have been formulated in the interests of those in power.

The situation that prevailed from 1979 to 1990 was really a bruised compromise between two contending powers: the government and its grassroots opposition. Language policy in schools was the imperfect outcome of a struggle that was largely ideological in nature. The practice that emerged, though not devised for educational reasons, came to resemble the delayed immersion model used in a number of other multilingual countries².

Inevitably, since the political struggle was an ongoing one, education policy remained subject, on both ideological and educational grounds, to severe public criticism. Even amongst opponents of government there was debate about the roles of English and the vernaculars. Some held that English was the language of imperialism in South Africa, a supplanter of indigenous languages and an instrument for the disempowerment of their communities. Others saw it as a counterblast to Afrikaans, which had in the meantime picked up much of the opprobrium that might otherwise have stuck to imperial English. Meanwhile, paradoxically, the government's policy of "separate development" and its efforts to limit the spread of English led to the promotion of the vernaculars in schools and public administration, especially in the homelands. The official status of indigenous languages was thereby undoubtedly enhanced, but at the price of having them dressed in the weeds of apartheid. So, as the vernaculars became associated with the policy of divide and rule, English seemed to unite and empower. On the other hand, there were - and still are - sound pedagogical arguments for the use of the mother tongue in early education. All in all, the language policy debate has been a complex one, full of ironies and apparent contradictions, of which many have yet to be resolved.

There were, of course, other points of disagreement than language policy. What is important for the purposes of this study is that many language policy issues are not yet settled. There are still arguments over medium of instruction, and teachers' and

² For example, Langan (1991:5) lists six Francophone and ten Anglophone countries in Africa which are currently implementing some form of delayed immersion model of language education.

pupils' attitudes towards the languages in which they instruct or are instructed must to some extent shift with the tides of opinion in their communities.

Many educationists still find fault with current language in education policy and the manner in which it is implemented. One of the most comprehensive analyses to date of the problems arising from the delayed immersion policy is contained in the reports of the Threshold Project, which considered language policy issues as part of an extensive investigation into the difficulties encountered by black pupils in the first four years of school - the junior primary phase. In the final project report, Macdonald (1990:41) states:

The pronounced weakness that we discovered with the children's English leads us to believe that the current generation of junior primary children are not competent in terms of the demands of the medium transfer... at least in its present form.

Hartshorne (1992:206) endorses this judgment:

It is stating the obvious to say that English-medium education can be effective only if both teachers and pupils have the capacity to use English in the classroom at a level appropriate to the learning required by the curriculum... The effects of both policy and practice over the last thirty-five years have been to reduce this capacity seriously and to lower the standards of English throughout the system.

Langhan (1992:3) is even more blunt:

The sudden transition to English policy for African language schools has not met with any measure of success. More accurately, it can only be described as a tragic failure.

Responding to widespread criticism of this nature, the Department of Education and Training (successor to the Department of Bantu Education) in June 1991 permitted parent bodies in each school to determine for themselves the school's language policy at all levels. DET returns cited by Hewgh (1993:31) indicate that, by the end of 1992, about 67% of DET's 7 368 schools had voted. Of these schools, some 54% (2 666 schools) opted for a gradual transfer from mother tongue to English over four years from SSA to Std 2; 22% (1 108 schools) chose to go straight for English as medium of instruction from SSA; 7% decided to retain the *status quo* and 13% went for a sudden transfer to English at another point (usually in the first year of secondary school).

The results of efforts to implement these new language policy options have yet to be examined. There is anecdotal evidence that, in many cases, a degree of confusion has prevailed. This researcher has attended numerous meetings, workshops and seminars for teachers and educational administrators at which reports were tabled of schools attempting to implement an English-medium curriculum from SSA even though they had no syllabuses or textbooks for such a curriculum, and none of the pupils and few of the teachers could speak English.³ Many of these meetings highlighted the confusion in the minds of many parents and educators between English *as a subject* from SSA and English *as medium of instruction*. That many teachers are becoming concerned about the dysfunctional effects of unsupported policy changes is indicated by a recent survey conducted by the Education Foundation (1993:4) of 238 teachers from most South African education departments. In this survey, 73% of the 138 DET and homelands teachers interviewed said that most of their pupils would perform better if the

³ This researcher has also encountered, in several newly-declared English-medium schools, a situation in which most teachers continue to make normal use of the vernacular as medium of instruction in all subjects but switch to English whenever they see a stranger approaching. As the visitor leaves, the teachers may be heard lapsing back into the vernacular. Thus, an outsider passing in the corridor may set up a rolling wave of (often) pidgin English before him and a wake of vernacular behind.

medium of instruction were their home language rather than English.⁴

In this respect, at least, a prediction of the NEPI report (1992:43) appears to be in the process of fulfilment:

Giving choice is not, in itself, always a valuable or democratic act: simply giving people the right to choose the medium of instruction without providing information on the implications and likely outcome of various choices would, we argue, be irresponsible now.

Notwithstanding recent developments, then, a conclusion of the NEPI (1992:3) report still holds:

Racism informed the development and implementation of current language in education policies, and these policies continued to serve the interests of those who were economically and politically powerful... There has been no far-reaching attempt to redress inequities other than those that existed earlier this century between white English and Afrikaans speakers.

Chick (1992:275-6) lists three significant and unforeseen (by the authorities, at least) consequences of the history reviewed in this section. Firstly, Afrikaans became associated with discrimination and oppression in the minds of many black people. Secondly, English came to be viewed, by favourable contrast, with advancement and better education. Thirdly, mother-tongue instruction became suspect, since it was linked to apartheid ideology. A fourth might be added to these: a general decline in the standard of English teaching, since the present generation of teachers were themselves taught little English. Today, the education system is

⁴ Moreover, there is strong evidence that teachers' perceptions of language competence and its implications for learning to read textbooks may be characterised by undue optimism. See Chapter Two, Section 3.

largely staffed by people who are themselves products of that system, and who reflect the weaknesses in language education described heretofore. This point is taken up in more detail Chapter Two, Section 3 of this thesis.

The net result, then, of language in education policy has been a general weakness in English instruction in black schools. This poses major challenges to any agency - whether government department or non-governmental organisation - which seeks to improve the standard of language education in the schools. Hartshorne (1992:206) sums it up:

There are high priority areas in which the English curriculum as well as the teaching of the language need to be given urgent attention. Among these, for example, are:

- *The position of English in the teacher-training colleges, in terms of the students' capacity to use English, to teach it as a language and to employ it as a medium.*
- *The curriculum for English in the first four years of schooling, where it needs to be taught not just as another subject but as the working tool of the pupils for the remainder of their schooling.*
- *The in-service education of teachers already in the system, many of whom were ill-prepared in the field of English because of the leaning of the system towards mother tongue or Afrikaans.*

It is precisely these challenges which the Molteno Project has taken up and upon which this research has a bearing.

3. THE MOLTEÑO PROJECT: BACKGROUND

The Molteno Project, which employs the writer of this thesis, is a research, development and implementation project initiated by Rhodes University. Since its inception in 1975 it has tackled the problems of language teaching and learning in primary schools, with particular emphasis on the preparation of black children in the junior-primary phase for an English-medium education. It is a non-profit, non-governmental organisation which relies almost entirely upon donations from trusts and private-sector companies for its income.

The main driving force behind the Project has been Professor Len Lanham, whose unique combination of expertise in the fields of linguistics, African languages and education has over the years exerted enormous influence on the Project.

In the most comprehensive explication to date of the Molteno Project's aims, principles and practices, Nuttall and Langhan (in press:14) describe its objectives as being [original emphasis]:

Based on identified problems and associated needs in black primary schools, the Molteno Project adopted as its primary objective the preparation and support of pupils and teachers for English medium instruction through the development and implementation of methods and materials that would, in the longer term, also result in curriculum transformation.

In pursuit of these goals, the Project has developed a series of courses intended to bring pupils to the point where they can cope with an English-medium education from the fifth year of school onwards. This series begins with Breakthrough to Literacy, a mother-tongue literacy course for the first year of school, now available in eleven southern African languages. It is followed by a series of English courses, collectively called Bridge To English, which currently extend from the first to the fourth year of school. Together, these courses are intended to prepare African-

language pupils for the English-medium education which awaits them in their fifth year of school.

According to the Project's Annual Report for 1993, its courses are currently being used in about 10 000 classrooms throughout southern Africa (including Botswana, Namibia and Swaziland). This means that, on any normal school day, more than 400 000 pupils are taught by means of them.

The Project offers in-service teacher-training in the use of all its courses, and indeed the greater part of its resources are devoted to this activity, which is seen as vital to the success of Molteno methods and materials. (See Chapter Two, Section 4 for more details). Currently, thirty four of the Project's fifty four employees are dedicated to teacher training, five to research and development and the remainder to administration and support services. The lion's share of the of the Project's budget, too, is allocated to teacher training.

On educational grounds, the Project is committed to the belief that learning a foreign language for use as medium of instruction is best achieved where the learner has first been effectively enliterated in the mother tongue. This was a key finding of the initial Molteno Project Report (Rodseth, 1978). The research leading to this Report was initiated in response to the alarming failure rate in English amongst black school-children. It examined the root causes of the problem and concluded that the general failure to read and write in English arose largely from a failure to master these skills in the mother-tongue during the first year or two of school. Statements to this effect are repeatedly made in the final report, typical examples being:

The roots of the "English-reading-problem" lie in the pre-English-reading vernacular stage. (p93)

Without adequate vernacular literacy skills, second language learners have a poor foundation on which to build. (p101)

Summing up his findings on this, Rodseth (1978:105), the chief researcher, writes:

A child who becomes engaged by early vernacular literacy work is bound to be eager to move to a second-language situation. Conversely, a child who lacks confidence in vernacular literacy work will be "licked before he starts" second-language literacy work. Feelings of confidence and power; a love of reading and writing; a clear understanding in the earliest stages that reading and writing are meaningful and exciting communication activities; a generally positive "mental set" towards literacy and the acquiring of disciplined literacy habits - all these are surely transferable.

This belief in the importance of early mother-tongue enliteration led to the development and promotion of Breakthrough and has remained a cornerstone of the Project's operations. Admittedly, this has not always been a popular position. Macdonald & Burroughs (1991:29) note that

For most South Africans, however, the very idea of first language education has negative associations because it has in the past been misused as a political weapon.

Yet in the same passage they state frankly a conclusion to which their research brought them (original emphasis):

The question naturally arises, "How can all children get off to a good start at school?" The answer we would like to suggest is a delicate one in the South African context: "By starting them off in their own language because it will give them the foundation on which their thinking skills and their ability to acquire and use other language will develop." (p29)

Amongst the arguments which Macdonald & Burroughs marshal in favour of the

mother tongue are:

Learning to read and write in one's own language first seems to be the best possible way to allow the children's language and language learning abilities to develop and flourish...

A thorough first language course gets children off to a good start in education because the language provides a bridge between the child's home and the demands of the new environment of the school. (p30)

There is now a considerable and growing body of evidence from research conducted around the world to support the contention that the mother-tongue is the best medium for early education. As early as 1953 a UNESCO report argued that:

It is important that every effort should be made to provide education in the mother tongue...On educational grounds we recommend that the use of the mother-tongue be extended to as late a stage in education as possible. In particular, pupils should begin their schooling through the medium of the mother-tongue because they understand it best and because to begin their school-life in the mother-tongue will make the break between home and school as small as possible...

Recent experience in many places proves that an equal or better command of the second language can be imparted if the school begins with the mother tongue as the medium of instruction, subsequently introducing the second language as a subject of instruction.

Evidence in support of the mother-tongue-first route also comes from West (1970), Saville-Troike (1976), Fafunwa (1978), Skutnabb-Kangas (1979), Dutcher (1982),

Robson (1982), Siguan & Mackey (1987) and Williams (1993b).

Of particular interest among these is the research conducted in African primary schools by Fafunwa (1978), Dutcher (1982) and Williams (1983 & 1983b). Fafunwa reports on a successful experiment in delayed immersion into English conducted in Southern Nigerian schools, 1970-1975, under the title, The Six Year Primary Project (SYPP). There were five experimental groups, incorporating both rural and urban pupils. Two groups were taught in Yoruba, their mother tongue, for the full six years of primary school before changing to English as medium of instruction in secondary school. The other three groups followed the standard Nigerian model of mother tongue instruction for three years followed by a change to English as medium, with Yoruba as a subject. Extensive testing over the last three years of the experiment indicated that pupils who had studied through their mother tongue for six years were far more successful in the English-medium environment in the seventh year, their first in secondary school, than those who had already had three years of English medium instruction in primary school.

By contrast, referring to the failure of a straight-for-foreign-language policy in some Francophone African countries, Dutcher (1982:2) writes:

There is a growing body of research which indicates that children who have not learned their first language well will not learn well in their second, that is, they will learn neither to read the second language well nor to acquire subject matter through the second language...

While it might be cheaper to use only French in an African country, if the children learn only a fraction of what they would have learned had part of their education been in their own language, or if the entire years of primary school are used just to teach them the French language, one has to question the effectiveness of the education - if that country has as a pronounced objective that of literacy for all its children.

Williams (1993b:15) draws similar conclusions from his research into levels of reading proficiency amongst primary school pupils in Zambia and Malawi:

It seems clear that the policy of instruction in English from Grade 1 [in Zambia] has a negative effect upon literacy in the mother tongue. The situation in Malawi, where Chichewa is the medium of instruction for the first 4 years, suggests that children can achieve reasonable literacy in their mother tongue with no adverse effect on their English. On the current Zambian policy, I would endorse the views expressed in Focus on Learning (Ministry of Education, 1992), par 5.4:

Too early an emphasis on learning through English means that the majority of the children form hazy and indistinct concepts in language, mathematics, science and social studies. A number of studies in Zambia have confirmed that children's subsequent learning has been impaired by this policy.

Arguments advanced by Saville-Troike (1976: 69-72) in favour of mother-tongue first, which the Molteno Project accepts, are that:

- i) *It constitutes recognition and acceptance of prior linguistic, conceptual and cultural experiences as a base on which to build. (p69)*
- ii) *It allows for continued and unbroken conceptual development (p71)*
by following the basic educational principle of working from the known to the unknown; pupils learn best when new information relates closely to what they know already. This also helps to prevent cognitive overload, since the pupil is confronted with only one new concept at a time, namely learning the written word of a known language, instead of having to learn an entirely new language in both its spoken and written forms simultaneously.

- ii) It enables the pupils to express themselves and therefore to participate in the learning process as an active, not a passive, learner. *Language skills may thereby be extended in functional contexts of learning and communication.* (p72)
- iii) It reinforces the pupil's self-esteem by recognising his cultural identity and his ability to express valid thoughts and opinions (p69-70); this is especially important to the underprivileged pupil who is typically intimidated by the prospect of going to school.
- iv) It generates positive expectations from the pupil, his family and the community at large by recognising the value of the parental culture and the link between school and home. (p71).
- v) Certain concepts, such as sound-letter relationships, left-to-right writing patterns, spaces between words, punctuation systems and words/sentences as units of meaning, are more readily grasped in the known territory of the mother-tongue; they may then be transferred to a second or foreign language as a basis for literacy in that language. (p71-72)

From her analysis of the linguistic performance of immigrant (particularly South East Asian) children in New York public schools, Saville-Troike concludes (1976:71):

An English-only policy in the schools has been educationally, socially and psychologically damaging to students from non-English-speaking backgrounds.

With such lessons in mind, the Molteno Project continues to advocate effective basic mother tongue enliteration in the first year of school - an attainable goal -

followed by a gradual transfer to English, with ongoing support from a parallel programme of mother tongue maintenance and development. It is with the effectiveness of such an approach, in so far as it is currently implemented in some South African schools, that this research is concerned.

4. AIMS AND HYPOTHESES OF THIS RESEARCH

Molteno Project courses emphasise reading skills. Lanham (1984:3) describes their central role thus:

Acquisition of the reading skill is the primary objective of both the Breakthrough and Bridge to English programmes.

Chapter Two, Section 4 describes in more detail the manner in which the Project tackles the problem of developing reading proficiency in black junior primary pupils, against the background of the language in education policies described heretofore and the system constraints which these have imposed.

This research tests the hypothesis that the accelerative reading programmes which the Molteno courses comprise produce measurably better results in pupils than do more traditional reading schemes currently approved for use in black schools.

In two respects, this research enters uncharted territory:

- i) In the past, evaluations of Molteno Project courses and their components have, for both theoretical and logistic reasons, relied heavily upon qualitative methods. As explained in Chapter Three, Section 5 and Chapter Four of this thesis, this research explores the use of quantitative methods and examines the practicability of standardised EFL tests at junior primary level, where little work has

been done to date.

- ii) Internationally, research on the subject of communicative language competence has largely been conducted on tertiary or senior-secondary level teachers and learners in the developed, urban world. In this research, by contrast, an attempt is made to enter the world of very young learners in underdeveloped and usually rural communities in order to assess their communicative reading ability. This follows the direction to researchers implied by Pica (1992:2) when she notes that

most of the extant data used to ground current theories of language acquisition are skewed toward adult language learners in second language environments. As a result, this research cannot be safely applied to the instruction of foreign-language learners in particular or to teaching decisions in general.

Lanham, in a personal communication to this researcher dated July 1992, speaks of

the young child as foreign language learner - the most neglected of all language-learning populations.

This research seeks to enter that misty domain in search of practical insights into EFL teaching in the junior primary classroom.

Specifically, the following questions are addressed:

- i) Is communicative reading competence measurable at junior primary level in EFL pupils?
- ii) Can standardised tests be used to do it?
- iii) How are such tests developed and how implemented?
- iv) What lessons can be learned from quantitative data thus obtained and what is their significance for teachers, testers, course writers and other researchers?

CHAPTER TWO

THEORY AND PRACTICE OF READING

1. COGNITIVE READING THEORY

1.1 Historical Review

Language is one of the most complex functions of the human mind (Fromkin & Rodman, 1988:4). Yet, every normal child acquires a working grasp of spoken language by the age of about three and full facility by about age six. A capacity to acquire language in its written form, however, is not pre-programmed into our minds in the same way. The ability to read is something that must be deliberately taught, learned or developed. In respect of these activities, even normal children are not all on the same footing, but operate with the advantages and disadvantages that their educational environment imposes upon them. What the teacher thinks reading is, and therefore how she teaches it, have profound effects on the learners' progress in developing reading skills.

The teaching of reading has long been influenced by the apparent natural order of precedence in language learning - listening, speaking, reading, writing. Silberstein (1987) traces this view from the publication of Cattell's paper on seeing and naming letters and words in 1886 through to the ascendancy of the "information processing" theorists of the 1960s. In effect, reading was assumed to be a mechanical process of converting written symbols on a page back into the spoken words whence they came.

In the field of foreign language teaching, this view was supported by audiolingual methods, which emphasised the development, through language drills, of habitual

responses to verbal stimuli. Reading in a foreign language was considered to be essentially a process of simultaneously decoding two codes: the conversion of written symbols into speech, and the translating of foreign words and phrases into their first language equivalents. Silberstein explains (1987:28):

Teachers trained in the audiolingual approach were taught that language was speech; reading was simply speech written down. Reading instruction, then, could proceed only after students had developed a working knowledge of the spoken language...

The process of learning to read was thought to be fairly mechanical: students developed habitual (eventually automatic) recognition of the written symbols corresponding to familiar (that is, spoken) language patterns.

Not surprisingly, many audiolingual language programmes all but ignored reading in favour of oral dialogues and pattern-practice drills (Silberstein, 1987:28). Exponents of these programmes contended that

"the chief source of difficulty in getting the content of reading is imperfect mastery of the mechanics of reading" - that is, in associating letters with sound. (Fries, quoted in Silberstein: 1987:30)

Such a view was obviously in line with the general focus on oral language at the time. Samuels & Kamil (1988:22) observe that:

Until the mid-1950s and the 1960s, there was simply not a strong tradition of attempting to conceptualize knowledge and theory about the reading process in the form of explicit reading models.

A change came in the 1960s when researchers like Rivers (1968), Plaister (1968), and Eskey (1970, 1971, 1973) began, on the basis of their experience with younger foreign-language students preparing for tertiary education courses in the U.S.A., to challenge the long-accepted primacy of the spoken word. These researchers had no unified model of the reading process. They still tended to regard reading as a "bottom up" process of decoding and re-assembling in relation to one another ever-larger chunks of text (words, phrases, sentences and paragraphs). The focus was still on the text as the reader's principal source of information and the sole bearer of meaning. Nevertheless, their work represented a significant shift towards the view that reading is an information-processing skill separate and unique from speech (Silberstein, 1987:29). It also paved the way for the advent of more comprehensive psycholinguistic theories in the 1970s

The publication of Goodman's 1967 article, *Reading: a Psycholinguistic Guessing Game*, heralded a major revision of reading theory. The psycholinguistic perspective which Goodman (1967, 1970, 1973) exemplifies, is, in Silberstein's words (1987:30),

based on insights derived from contemporary linguistics and cognitive psychology. From this perspective, reading is viewed as a complex information-processing skill. The reader is seen as an active, planning, decision-making individual who co-ordinates a number of skills and strategies to facilitate comprehension.

Goodman (1967:372) advanced the now oft-quoted view that

Reading is a selective process. It involves partial use of available minimal language cues selected from perceptual input on the basis of the reader's expectation. As this partial information is processed, tentative decisions are made to be confirmed, rejected, or refined as reading progresses.

More simply stated, reading is a psycholinguistic guessing game. It involves an interaction between thought and language. Efficient reading does not result from precise perception and identification of all elements, but from skill in selecting the fewest, most productive cues necessary to produce guesses which are right the first time.

This theme has been taken up and elaborated by other researchers. Smith (1973) reasons that, since the human brain is limited in how much information it can receive, process and manipulate in a single session, the reader always attempts to reduce his dependence on the text by selecting the shortest route - the fewest textual cues - to the extrapolation of meaning. He finds support for this theory in the research of Kolars (1969), who has demonstrated that readers usually bring more information to the text than the text brings to them.

According to Silberstein (1987:30), a key implication of psycholinguistic theories is that

reading involves, as Goodman states, an interaction between thought and language. The reader brings to the task a formidable array of information and ideas, attitudes, and beliefs. This knowledge, coupled with the ability to make linguistic predictions, determines the expectations the reader will develop while reading. Skill in reading depends on the efficient interaction between linguistic knowledge and knowledge of the world.

This concept of reading as an interaction between reader and text has been widely accepted and expanded upon (Adams & Collins, 1979; Widdowson, 1978; Coady, 1979; Carrell, 1983, 1984, 1985, 1987, 1988; Johnson, 1981, 1982). Coady, for example, (1979) hypothesizes that comprehension arises from the three-way interaction of the reader's background knowledge, conceptual abilities (that is,

general intellectual capacity) and process strategies (which include such language-processing skills as a knowledge of syntax, lexis, context, and sound-letter relationships).

The role of background knowledge in reading comprehension is emphasized by other researchers under the general appellation of schema theory (Rumelhart, 1977 & 1980; Anderson, 1977; Adams & Collins, 1979; Johnson, 1982; Carrell, 1984; Carrell & Eisterhold, 1988; Steffenson & Joag-dev, 1984; Steffenson, 1988). Summarized by Carrell & Eisterhold (1988:76; original emphases) schema theory

has as one of its fundamental tenets that text, any text, either spoken or written, does not by itself carry meaning. Rather, according to the schema theory, a text only provides directions for listeners or readers as to how they should retrieve or construct meaning from their own, previously acquired knowledge. This previously acquired knowledge is called the reader's background knowledge and the previously acquired knowledge structures are called schemata.

They further state (1988:76-7):

According to schema theory, the process of interpretation is guided by the principle that every input is mapped against some existing schema and that all aspects of that schema must be compatible with the input information. This principle results in two basic modes of information processing, called bottom-up and top-down processing. Bottom-up processing is invoked by the incoming data; the features of the data enter the system through the best-fitting, bottom-level schemata... Bottom-up processing is, therefore, called data-driven. Top-down processing, on the other hand, occurs as the system makes general predictions based on higher-level, general schemata and then searches the input for information to fit into these partially-satisfied,

higher-order schemata. Top-down processing is, therefore, called conceptually-driven

An important aspect of top-down and bottom-up processing is that both should be occurring at all levels simultaneously.

The influence of cognitive psychology on the schema-theoretic model of reading is discernible from this description. Researchers in that field - like Bartlett (1932), Schank (1972), Bobrow & Norman (1975), Minsky (1975 & 1977) and Schank & Abelson (1977) - provided insights into human perception and learning that were readily transferable to research into language. Bartlett proposed that memory is organised into units of related information - filing cabinets, as it were, each carefully labelled and cross-referenced; each of these filing cabinets constituted a schema. Expanding on this, Minsky argues that the filing cabinets, the schemata, are essential to learning in that they provide a framework for assigning meaning and value to the inputs received via the senses. This metaphor of a frame-like structure into which inputs are fitted for classification, interpretation and storage gave rise to the term **frames** as a synonym for **schemas** or **schemata**. In Minsky's terminology, frames which deal with events are called **scenarios**. Schank & Abelson expand on this by describing a schema of familiar events as a **script** which is invoked by the mind to interpret inputs and suggest outputs, or appropriate responses, in connection with those events - a kind of "handy guide" to well-known situations.

It was a small step from these theories to the notion that reading likewise entails the matching up of information from the printed page with that already stored in the filing cabinets of the mind. The information in the mind must be of at least two kinds:

- i) Information about the world which relates in some way to the topic of the text. Existing information provides a framework into which new

information from the text can be fitted. This helps to explain why it is easier to read - and learn - about things we already know something about.

- ii) Information about how texts are structured, which helps the reader to follow its course. The reader who does not know what to expect from a text, what to look for or where, will not readily get the sense of it. Young readers often experience this problem as they progress from narrative to expository text. From hearing and reading many stories, they have acquired a sense of what stories are - a story schema - and even of the way they are structured - the story grammar (Greene, 1986:45). When they encounter expository text in the form of a textbook, they are frequently baffled by its different conventions of internal organisation and its general non-conformity to the familiar schemata of stories. Lanham (1986:7) identifies this as a particular problem of the young second-language learner.

Part of the attraction of schema theory is that, intuitively, it seems so right. It fits everyday experience. This can be demonstrated with the sentence:

Cherokee Joe swung open the batwing doors and strode into the saloon, spurs jingling.

Instantly one recognizes this as coming from a Western novel of the "penny-dreadful" variety. There springs to mind a picture of a dry-gulch town, windblown tumbleweed, cacti on the plains and a clapboard office marked "Sheriff". Where did this picture come from? How was it invoked? Evidently, it was there all the time, but filed away somewhere in the reader's mind, awaiting recall. Words like *batwing*, *saloon*, *spurs* and even the name *Cherokee Joe* acted as key-words or cues to direct the reader to the mental file marked "Westerns", whence an appropriate picture was flashed upon the mind. A schema has been activated to give the reader a much fuller picture than the text itself provided. It is noteworthy

that this picture, as described here, is also full of cues to the same file. This suggests that schemata are central to certain mental processes. Epigrammatically, they cannot even be described without being activated.

Obviously, at least two things can go wrong in the schema-activation process. Firstly, the reader might misread the textual cues and open up the wrong mental drawer. For example, in the foregoing text, he might read *salon* instead of *saloon* and call up information relating to hairdressing. The resulting mismatch between schema and text would lead to bewilderment which would only be resolved by the reader's detecting his error and retracing his steps to find the right schema. Secondly, the reader might not have a file to open - that is, might not have any information relevant to the topic. This is a common problem with young readers, especially those who have had little exposure to the wider world.

Neat as it is, schema theory has its limitations. Greene (1986:34) points out that, even in its most developed forms, it does not fully explain how information is stored and accessed. For example, how and why do odd snippets of information come to mind at random, while essential information which we *know* we know - like the name of an acquaintance or the whereabouts of our keys - sometimes disappears from mind when we need it most? Nevertheless, schema theory has proved useful as a means of conceptualising certain mental processes which accompany reading. It has thus acquired wide currency amongst linguists and inspired a good deal of further research into reading (Grabe, 1988:56).

The need for the reader to engage interactively with text is emphasized by Widdowson (1978:65):

Reading as the understanding of discourse does not simply involve the recognition of what words and sentences mean but also the recognition of the value they take on in association with each other as elements in a discourse. What happens when we read with understanding is that we actively work out what the discourse means

as we go along, predicting what is to come by reference to what has preceded. Reading in this sense is a kind of accomplishment whereby a discourse is created in the mind by means of a process of reasoning.

Indeed, Widdowson (1978:71) argues that, in order to construct meaning from text, the reader must constantly be searching for clues to the unstated:

The interpreting ability which underlies effective reading, then, involves the realization of propositional and illocutionary value by reference to what has preceded and the prediction of the propositional and rhetorical value of what is to follow.

To the extent that this is so, reading must indeed be "a psycholinguistic guessing game".

Chall (1983) takes the interactive model a step further (drawing, like the schema theorists before her, upon research in the field of developmental psychology) with her hypothesis that the development of reading competence may be seen as a series of steps, within each of which certain cognitive skills are developed. In her words (1983:9):

Six stages are hypothesized..., from a kind of pseudo-reading to reading that is highly creative, through which people generally progress in characteristic ways. Individuals vary in their progression, yet most who are educated in typical schools tend to progress largely through the stages within the age limits listed.

Chall's stages are: pre-reading, initial reading or decoding, confirmation and fluency, reading for new information, multiple viewpoints, and construction and reconstruction. Chall (1983:11) places herself firmly within the context of the

interactive model by emphasizing that

Reading is at all stages a form of problem solving in which readers adapt to their environment (as per Piaget) through the process of assimilation and accommodation. In assimilation they use learned processes in reacting to new demands. In accommodation they adapt by changing or restructuring the old to accommodate the new...

Individuals progress through the stages by interacting with their environment - the home, school, larger community and culture.

And:

At all stages of development, reading depends upon full engagement with the text - its content, ideas and values. (1983:12)

By proposing that the twin processes of assimilation and accommodation are engines of the learner's progress from stage to stage, Chall by implication draws attention to the fact that no two individuals will interact in precisely the same way with the world at large; however, within a given environment, and even between environments, there will be common patterns of interaction. Thus, Chall attempts to account for both generalised patterns of reading development and individual differences within those patterns.

Chall further posits that different types of processing occur at each stage. Of the first stage (Chall designates it Stage 0, the pre-reading phase, extending from birth to about age 6), she says:

The Pre-reading Stage covers a greater period of time and probably covers a greater series of changes than any of the other stages... The children grow in their control over various aspects of language - syntax and words. And they gain some insights into the nature of

words: that some sound the same at their ends or beginnings (rhyme and alliteration), that they can be broken into parts, and that the parts can be put together (synthesized, blended) to form whole words...

Extensive research on reading readiness... has demonstrated that the various abilities, knowledge and skills acquired during the Prereading Stage are substantially related to success with reading at Grade 1.
(1983:14-15)

Next, in Stage 1, the child begins to decode letters and words so as to attribute to them sounds and meanings. The exact manner in which this is done depends on whether the child has been taught mainly by a "look-and-say" (whole word) method or a phonics (letters and sounds) method. Either way, according to Chall, the child sooner or later learns that all alphabetical writing is based on sound-letter relationships, from which words are assembled; groups of words, when linked in a particular order within the syntax of the language, constitute units of meaning. Chall (1983:16) says of this realisation:

This great discovery, usually accompanied with tears (Bissex, 1980) comes more or less dramatically to most of us who become literate.

In this description, an echo of the gestalt theory of learning is discernible - namely that learning occurs holistically at the moment when all the elements of the problem, and their inter-relations, come together simultaneously in the learner's mind to form a single, comprehensible picture. To use a classic analogy, one appreciates music not by listening to individual notes and the spaces between them but by apprehending the continuous, interwoven pattern of sound throughout the performance. This is a gestalt experience. So, too, in Chall's model, is the "great discovery" of the grapho-phonemic key to the uniform code of writing.

Chall (1983:17) acknowledges that, in its emphasis on code-cracking skills in Stage

1, her model may seem to run counter to the psycholinguistic theories of Goodman, Smith and others. It implies that, for a while at least, learners have to focus on letters and sounds rather than on global meaning. To the extent that they do this, they are decoding symbols and not, in the classic psycholinguistic sense, reading for meaning. Indeed, it may appear that they have thereby actually regressed in their reading, since in Stage 0 they usually drew upon their world knowledge to attribute meaning to certain words which they had not yet learned to subdivide into letters - road signs, brand names and other high frequency words, for example. But Chall (1983:17-18) draws on the research of Feldman (1980) and Bissex (1980) to argue that it is necessary for learners within Stage 1 to master graphic decoding before they can move on to reading with understanding text which has not previously been encountered and deciphered for them:

Mature readers can stick to the print if they want to or need to. Going beyond it is a conscious choice for them, one based on knowledge. Young children at the pre-reading stage, at the beginning of Stage 1, have no choice. They must supply their own words because they do not know enough about how to get the author's words from the printed page. To advance, to build up the skill for making choices, beginners have to let go of pseudo-reading. They have to engage, at least temporarily, in what appears to be less mature reading behaviour - becoming glued to the print - in order to achieve real maturity later. They have to know enough about the print in order to leave the print.

In terms of Chall's theory, truly interactive text-processing only begins in Stage 3 (Grabe, 1988:64), normally corresponding with about age 9 - the fourth grade in American schools - and stretching through to about age 13, or the start of secondary school. It is in this stage, says Chall (1983:21), that readers make the important transition from learning to read to reading to learn. Thereafter, the child's reading development typically involves the refining and extending more of interactive skills that promote comprehension (such as predicting content,

comparing and reconciling multiple viewpoints, analysing, synthesizing and evaluating information) than of purely technical skills (such as building vocabulary and reading speed).

Chall's model remains subject to debate (Grabe, 1988:64), but there is at present no strong challenge to the general view that reading is an interactive process.

A popular analogy illustrates the interactive nature of reading. In a ball-game - say, cricket - the player must apply, simultaneously and for the duration of the game, skills in and knowledge of, *inter alia*, the aim and spirit of competitive sports in general, the rules of cricket in particular, the characteristics of balls in flight, generic skills of ball games (strength, dexterity, eye-hand co-ordination, quick reflexes, etc.), patterns of play, team tactics, special features of the field of play, and a host of other factors. In much the same way, reading with understanding requires the reader to combine for a specific time and situation - the reading episode - skills and knowledge in such areas as sound-symbol relationships, vocabulary (general and topic-specific), syntax, text-structure, prediction, discrimination, sampling, confirming, inferencing, and the world in general. While no reader will be equally proficient in all these (and many other) elements of reading, a reader who is conspicuously deficient in any one of them will have her comprehension of the text correspondingly impaired.

Resnick (1984:438) notes that, although there is general recognition of the importance of schema construction in learning, no plausible theory has yet been advanced on precisely how such construction occurs. Rumelhart and Orton (1977) and Rumelhart (1981) attempt to fill this gap by proposing that the interactive process has three elements: accretion, tuning and restructuring. By accretion is meant the fitting of knowledge into existing schemata. Tuning and restructuring, on the other hand, describe the creation of new schemata - tuning being the gradual modification of existing structures to the point where they effectively become new ones, restructuring being the building of brand new schemata.

1.2 A Debate

Amongst the protagonists of interactive models, there are points of divergence - especially when a general model of reading is applied specifically to the second-language situation. While some researchers, notably Smith (1982) and Goodman (1988), continue to emphasize "top-down" skills and the role of schemata, others such as Stanovich (1980), Eskey (1988), Grabe (1988) and Carrell (1988b) have recently championed a revival of interest in and attention to the "bottom-up" decoding skills.

Goodman (1988:12) still asserts that:

Efficient readers minimize dependence on visual detail. Any reader's proficiency is variable depending on the semantic background brought by the reader to any given reading task.

From the opposing camp, Grabe (1988:60) counters with evidence from Van Dijk & Kintsch (1983:23-24):

The greatest facilitation of word recognition by meaningful context is observed with poor readers, not with good readers. Furthermore, it is simply not true that good readers take decoding lightly; they fixate almost every content word... It has been found over and over again that the best discriminator between good and poor readers is performance on simple letter and word identification tasks. What is really wrong with poor readers is that they recognize isolated words inaccurately and too slowly, and compensate for their lack in decoding skills with context-dependent guessing or hypothesis testing... Good readers with their superior decoding skills can decode letters and words rapidly in a bottom-up fashion and therefore do not normally need to resort to guessing strategies... What is really at issue are the

speed and accuracy of context-free word recognition operations.

Eskey (1988:94) concurs, arguing that

The rapid and accurate decoding of language is important to any kind of reading and especially important to second language reading. Good readers know the language. They can decode, with occasional exceptions, both the lexical units and syntactic structures they encounter in texts, and they do so, for the most part, not by guessing from context or from prior knowledge of the world, but by a kind of automatic identification that requires no conscious cognitive effort. It is precisely this "automaticity" that frees up the minds of fluent readers of a language to think about and interpret what they are reading - that is, to employ higher-level, top-down strategies like the use of schemata and other kinds of background knowledge. Good decoding skills are therefore one of the causes and not merely a result, as Goodman has argued,... of fluent (both rapid and accurate) reading...

The importance of automaticity in reading had earlier been noted by developmental psychologists such as Bamman (1970) and Neely (1977). Bamman (1970:7) applies the principle of automaticity specifically to reading:

Fluent reading is not a matter of analysing words as they are met, but rather the immediate recognition of virtually all the words in the selection... If reading is thinking that is stimulated by the printed word, then printed words must flow as spontaneously and as naturally as spoken language, if thinking is to occur.

Resnick (1984:440), too, stresses the importance of automaticity in bottom-up skills, describing reading development as a process of moving from conscious self-

management of strategies to immediate comprehension through automatic responses to lexical and syntactic information. In asserting that fluent reading involves the ability to distance oneself from the text so as to be able reason upon it, Resnick (1984:433) quotes Brown, Palincsar & Armbruster's definition that

the skilled comprehender of a text is one who is able to pose appropriate questions about it.

The ability to so distance oneself from the text would naturally be a function of being freed, by the automaticity of one's responses, from the task of consciously having to decipher textual cues.

Grabe (1988:60-61) supports the automaticity hypothesis:

A key issue for all interactive models is how to account for the numerous word recognition studies in the literature that run counter to top-down assertions. It is consistently found that good readers are able to recognise lexical forms at a processing speed faster than the time required to activate context effects and context predicting...

This process [of responding to units of meaning] happens at a rate more rapid than the time needed for conscious guessing. Generally speaking, the automaticity of this process allows us to concentrate on comprehension rather than on active selection or prediction of words.

Bialystock (1991) takes this argument a step further in contending that, particularly in a second language situation, automaticity cannot come without some measure of prior meta-linguistic knowledge. In other words, for a reader to track swiftly the trail of cues scattered through a text, he must have, ready to mind, a framework of knowledge about the language in which the text is written. Without such a framework, the textual cues are of no more use to the reader than a map to

someone unfamiliar with the concept of a bird's eye view or the symbols and conventions of cartography. Bialystock (1991:130) writes that:

Reading is a decontextualized use of language, that is, the language is presented outside of the empirical context to which it refers. The intended meaning of the text, therefore, can be obtained only through correct interpretation of linguistic forms, thereby increasing the need to understand the structure of these forms. No contextual cue will lessen the burden for accurate and precise interpretation as examination of the language forms is the only route to constructing the meanings. Moreover, because graphemic forms are initially parasitic upon phonological forms, that is, young children attach the letters to sounds and not directly to meanings, greater analysis of the linguistic system is necessary to accommodate this two-step path to meaning.

And (1991:128)

Increased demand for analysis of linguistic knowledge is also the prime characteristic of reading in a second language. Because reading itself is so dependent upon the reader's knowledge of language structure, the reader must have analyzed conceptions of a second language that are more organised and more explicit than are the conceptions of language needed for conversation.

The debate on the reciprocal influences and relative importance of top-down and bottom-up processes is likely to continue (Grabe, 1988:63; Eskey, 1988:99). What seems now beyond question is that reading is a complex process of interaction between reader and text, involving skilful decoding and the integration, at many levels within the reader's mind, of new information with previous knowledge. In short, then, interactive models of reading have become the dominant perspective.

As Resnick (1984:438-9) states:

Virtually all the [current] models of reading comprehension, formal and informal,... characterize reading as a process of coherence-building. That is, they describe text comprehension as resulting from a linking of new information to representations already in place or a formation of new connections between established knowledge elements.

2. THEORIES OF READING PEDAGOGY

2.1 Mother Tongue Reading Pedagogy

Current theories of reading pedagogy largely reflect the interactive and schema-theoretic view of reading described in Section 1 of this chapter. These theories are developed and translated into classroom practice by such researchers as Ashton-Warner (1963), Backman (1983), Beech (1985), Moon (1985), Beard (1987), Chapman (1983 & 1987), Meek & Mills (1988) and Whitehead (1990), who are noteworthy because they particularly direct their writings at teachers.

Ashton-Warner differs from the other researchers in this list in terms of both her vintage (her ideas on reading pedagogy were largely developed during the 1950s) and her extensive school experience. A primary school teacher all her life, she pioneered the teaching of reading through the use of texts generated from the child's own speech - the so-called language experience approach. This approach, so compatible with modern theories of reading and of child psychology, has had a profound influence on teaching practice in many countries, primarily through the Breakthrough to Literacy course. The language experience approach is embraced and extended by Backman (1983) and Moon (1985).

Goodacre (1971), Moon (1985) and Beard (1987) argue that the language experience approach on its own is insufficient for optimum reading development

because, reflecting a child's speech, it tends to produce short, disconnected prose with limited vocabulary and syntax. The solution, according to Beard and Moon, is to expose the child early to "whole stories" and "real books", that is, books of extended narrative prose, written for pleasure and not for didactics, in the natural language of everyday life¹.

Meek & Mills (1988) contend that, by using interlocutory techniques, the teacher may develop in the child a sensitivity to social elements in text, such as those which the ethnographic studies of Brice Heath (1983) had earlier highlighted - values, attitudes and beliefs about patterns and meaning in community life.

The sociolinguistic perspective is also evident in the work of Whitehead (1990), who advocates too a departure from basal readers, with their controlled language and artificial discourse, to "whole books" taught with a conscious directing of the pupils' attention by the teacher to the multiple sources of information in the text.

Chapman (1983 & 1987) attempts to translate the theories of Halliday & Hasan (1976, 1980) on coherence and cohesion into classroom practice for the teaching of higher-order skills. Halliday (1985:287) defines cohesion as the making explicit of the external relationship between one clause or clause concept and another. This may be achieved by a number of formal grammatical and lexical devices such as reference, substitution, ellipsis, conjunction, reiteration and collocation. Coherence, cohesion's close relative, refers to the connection and unification of ideas at the level of the whole text. Coherence devices include text-organisation techniques (such as paragraphing, headings and sub-headings, indenting and the ordering of sentences), pointers to implicit logical connections and the invoking of shared background knowledge. Coherence also implies that, for communication to take place, the sender and the receiver of the message (such as speaker and hearer, or

¹ Many of our forebears evidently felt the same way. Reading with one's children such time-honoured classics as Milne's "Winnie the Pooh", Graham's "The Wind in the Willows" and the stories of Beatrix Potter, one is struck by the "adult" language - extensive vocabulary, complex discourse and elegant prose.

writer and reader) must have a shared understanding of the illocutionary force of the speech act. Thus, the following exchange may make perfect sense to both parties:

Mother: "Johnny, what did I tell you?"

Johnny: "Coming."

because they share the situational knowledge that mother wants Johnny under her supervision. Chapman (1987) offers various reading activities designed to develop from an early stage children's awareness of these unspoken messages lurking in text and the subtle relationships between them. His recommended activities include cloze exercises in which groups of pupils discuss their choice of words for the missing items, prediction games in which pupils attempt to foretell what will happen next in a story, and sequencing tasks in which pupils use textual cues to put written excerpts into logical order.

As has already been observed, Chall's theory in its final (1983) form re-emphasizes the role of phonics in early reading and integrates it within a more comprehensive model of the reading process. This may be a significant step towards resolving a troublesome logjam. In the mid-1960s the field of initial reading research was torn apart by acrimonious disputes over the relative merits and demerits of phonics and the look-and-say method. Exponents of phonics argue its value as *the* basic skill for decoding text, while critics claim that, by emphasizing decoding, it inhibits children's reading development beyond a purely mechanical level. Look-and-say, on the other hand, is praised by some for its emphasis on reading for meaning, criticised by others for encouraging guessing at meaning and treating English as though it were a pictographic language, like Chinese, in which the shapes of words have no relation to one another.

The value of phonics has been vigorously championed by Flesch, whose highly-readable *Why Johnny Can't Read* (1955) and *Why Johnny Still Can't Read* (1983) are both best-sellers. These works have been criticised as being more in the nature

of polemics against the publishers of look-and-say basal readers than serious explorations of reading theory². But their substance cannot be ignored. For instance, Flesch (1955:60-68; 1983:28-39) cites a total of 124 comparative studies (fourteen of which he reviews in detail) of phonics versus look-and-say. Every single one of these - *virtually the entire body of research on the subject* - showed results favouring phonics.

Like Chall, Flesch turns a major theoretical argument in favour of look-and-say on its head with the contention that it is the child's realisation of how the phonic code can be used to decipher any unknown word, and not her apprehension of a word's configuration as a whole, that constitutes a gestalt learning experience.

The key to Gestalt psychology is the sudden moment of insight, the flash, the click, the psychological experience of having everything fall into place. A phonics-trained child... comes across [a] word for the first time, recalls to his mind his knowledge of letters and sounds, and something clicks in his mind. Why, that's what it means! He has learned to read another word. (Flesch, 1983:125)

Less impassioned is the work of Daniels & Diack (1956) who similarly marshal substantial research evidence of the superiority of phonics over look-and-say. Diack (1960 & 1965) suggests that phonics is, in effect, a kind of musical notation for translating the printed word into a sequence or time-chart of sounds. Phonics no more represents all there is to reading than does notation for music; but without a knowledge of them the written forms of language and music respectively are almost impossible to translate into meaningful sounds.

Gurren & Hughes (1965) review thirty-six studies of phonics versus look-and-say (most of which also appear in Flesch's list) and summarise their conclusions as

² See, for example, Macdonald (1990:58, *footnote*).

follows:

1. *Rigorous controlled research clearly favours the teaching of all the main sound-symbol relationships, both vowel and consonant, from the start of formal reading instruction.*
2. *Such teaching methods benefit comprehension as well as vocabulary and spelling.*
3. *Phonetic groups are usually superior in grades 3 and above. (p346)*

Chall (1967) comes to much the same conclusions from a similar review of eighty-five reading studies (again, there is substantial overlap with those of Flesch and Gurren & Hughes):

The research from 1912 to 1965 indicates that a code-emphasis method... produces better results.

... The results are better, not only in terms of the mechanical aspects of literacy alone, as was once supposed, but also in terms of the ultimate goals of reading instruction - comprehension and possibly even speed of reading.... The evidence indicates that better results in terms of reading for meaning are achieved with the programmes that emphasize code at the start than with the programmes that stress meaning at the beginning. (p307)

Hughes (1972) likewise supports the use of phonics but prefers to delay their introduction till after the children have acquired a small sight-word reading vocabulary upon which subsequent phonics lessons can be based. This, he argues, puts the phonics component of the reading lesson into a meaningful context. He

seems almost to anticipate Chall's 1983 theory of Stage 0 and Stage 1 with his comment that:

I have found that when children first learn to read there is no need for "formal" phonics because if children are "forced" into using word analysis at this stage, their attention to letters and their sounds will interfere with the ability to look for meaning in what is being read. Children at the beginning stage of reading learn to recognise words by their configurations.

I have obtained best results by beginning with the Look and Say and Sentence Methods but introducing preparatory phonics at a very much earlier age than that suggested by many educationists. (p7)

Dykstra (1973:397) concludes his review of fifty-nine phonics versus look-and-say studies on the same note as the studies began:

We can summarize the results of sixty years of research dealing with beginning reading instruction by stating that early systematic instruction in phonics provides the child with the skills necessary to become an independent reader at an earlier age than is likely if phonics instruction is delayed and less systematic. As a consequence of his early success in "learning to read" the child can more quickly go about the job of "reading to learn".

This weight of evidence in favour of phonics seems overwhelming. It is remarkable, therefore, that debate on the matter persists. However, even strong proponents of phonics recognise that, once mastered, phonics must be augmented - even surpassed - in use by higher-order skills involving the interactive processes previously discussed.

In general, then, it is probably true to say that reading pedagogy in the last few decades has been characterised by increasing recognition of the complexity of both texts and the reading process, and a search for new ways to facilitate the young learner's engagement with the text at all levels.

2.2 Foreign Language Reading Pedagogy

In the field of second language reading pedagogy, researchers like Grellet (1981), Nuttall (1982), Alderson & Urquhart (1984), Bransford *et al* (1984), Hosenfeld *et al* (1981), Cooper (1984), Birkmire (1985), Tonjes (1986), Devine (1988), Eskey & Grabe (1988), Carrell (1988) and Carrell & Eisterhold (1988) have attempted to apply their research to the EFL reading classroom. In South Africa, Lanham & Traill (1965), Lanham (1982, 1984, 1986, 1987, 1990) and Macdonald (1990 & 1993) are outstanding in the attention they have given to both first- and second-language reading pedagogy in the primary school.

Grellet (1981:6) reasons that, if reading is to be efficient, the reader must begin with a global understanding of the text and move from there to a more detailed understanding of specific points. This may initially be rather difficult for readers who are still heavily committed to decoding activities, since they are thereby tied to the smallest units of text - single words and sentences. Grellet recommends that teachers make use of comprehension exercises in which the questions are arranged to work from the gist of the text to the details. She also emphasizes skimming and scanning exercises as means to increasing both speed and comprehension. Grellet and Nuttall (1982) both recommend that teachers teach their pupils to search consciously and systematically for all possible cues to the gist of a text - the title, pictures, typeface, subheadings, layout and spacings, even punctuation - and to make predictions on the basis of these; the predictions must then be checked against the text, again consciously, as it is read. In this way, appropriate schemata will be activated and top-down processes initiated.

Whereas earlier researchers (Davis: 1944; Thorndike:1973; Munby:1978) had argued that reading skills are discrete and subdivisible, Lunzer & Gardner (1979), Anderson & Urquhart (1984), Birkmire (1985), Tonjes (1986) and Devine (1988) all argue that reading is a unitary process in which numerous text-attack strategies interact simultaneously. On the basis of this view, they advocate increased attention in the reading lesson to holistic, integrated activities, rather than to the development of isolated skills. This point is taken up again in Chapter 3, Section 2.3 of this thesis.

Eskey & Grabe (1988) urge teachers to provide practice in useful reading strategies for coping with text in an unfamiliar language. Pre-reading strategies - including the venerable SQ3R³ - are considered to be particularly important. Carrell (1988) strikes a similar note to Chapman (1983 & 1987) with her call for classroom instruction on cohesive devices and their function across sentences and paragraphs, and for greater use of vocabulary-building exercises. She also argues the need for teachers to build and activate pupils' background knowledge by text-mapping strategies (that is, selecting key content from the text and representing it as a visual or graphic image) and prediction activities.

A major development since the 1970s has been the emphasis by many EFL theorists on the development of communicative skills in the language classroom. This is exemplified by the work of such people as Munby (1978), Carroll (1980), Candlin (1981) and Brumfit (1984). More recently, reading as a communicative activity - and the testing thereof - has been emphasised by Morrow (1979), Alderson & Urquhart (1984), Carrell (1988) and others.

The term "communicative" is now so widely used in connection with language teaching as to have lost some of its meaning. Essentially, communication happens when language is used purposefully and effectively. Getting directions is an example of this. If a person requests and receives directions to a destination, which

³ SQ3R = Survey, Question, Read, Recite, Review

she is then able to follow, communication has taken place. If not, it hasn't. It is important to note that communication is not merely a statement of facts. There has to be appropriate response. This response may only be in the mind of the listener - such as when a person asks for the time and then apparently does nothing about it. There has, nevertheless, been a mental process of matching the information to a purpose - perhaps a decision on whether or not to hurry. Thus, as Bachman (1990:4) states,

Communicative language use involves a dynamic interaction between the situation, the language user, and the discourse, in which communication is something more than the simple transfer of information.

An axiom of this definition would be that communicative language teaching means teaching the learner how to use the target language to meet real life needs in real life situations. Since language in real life operates at many levels simultaneously, grammatical knowledge or structural competence in the traditional sense is not enough. In fact, Canale & Swain (1980) identify four levels of communicative competence which the foreign language learner must attempt to master:

- i) Grammatical competence, which refers to grammatical accuracy and lexical capacity.
- ii) Sociolinguistic competence, that is, the understanding of language in a social context, including the use of register as a function of role relationships.
- iii) Discourse competence - the ability to comprehend discourse by relating the parts to the whole.
- iv) Strategic competence, or the ability to manage communication by

employing appropriate strategies to initiate, direct, maintain, repair, redirect or terminate the communicative episode.

This overlaps to some extent with Littlewood's (1981:6) four broad domains which make up a person's communicative competence:

- i) Ability to use the language spontaneously and flexibly.
- ii) Mastery of items of language as part of a communicative, as well as a linguistic, system.
- iii) Ability to use feedback to monitor success of communication and, if necessary, to remedy failure by modifying language.
- iv) Awareness of the social meaning of language forms.

Brumfit (1979:183) compares the communicative language teaching methodology required to develop such competencies with traditional language teaching methods. The traditional sequence for teaching new points of language is:

- i) Present
- ii) Drill
- iii) Practise in context

By contrast, the communicative sequence would be:

- i) Learners communicate as far as possible with all available resources.
- ii) Teacher presents language items shown to be necessary for effective communication to proceed.
- iii) Drill if necessary.

This implies, too, that the language syllabus will be flexible, according to the needs of the learners - a point previously developed by Munby (1978).

According to Morrow (1981), a truly communicative teaching methodology incorporates three elements:

- i) **An information gap.** The purpose of all communication is to exchange information. In classroom terms, this requires exercises in which one learner must attempt to tell another something that the second learner does not already know.
- ii) **Choice.** Participants in communication have choice in terms of what they want to say and how they want to say it. Thus, the teacher must relinquish control of the learners' language and permit them - if necessary, compel them - to use whatever linguistic resources they have in the communicative episode.
- iii) **Feedback.** In real-life communication, the participants receive constant feedback, in the form of both verbal and non-verbal cues from the other party, as to what degree of communication they have thus far achieved. Classroom activities should emulate this by permitting learners, for the duration of the exercise, to interact with each other as they normally would in real life - face to face, for example, and making appropriate physical responses to the perceived message. This clearly implies that **learning by doing** is a major element of a communicative language teaching methodology.

Widdowson (1978) adds to this that communicative language teaching focuses on the function rather than the form of language, on meaning rather than structure. It also develops awareness of the situational, especially social, use of language. Widdowson argues the need for more communicative activities in the EFL reading

lesson. Amongst his suggestions to teachers is the use of the techniques of "gradual approximation", which he explains as

the development of a series of simple accounts of increasing complexity by reference to two sources: a linguistic source in the form of a set of sentences, and a non-linguistic source in the form of a diagrammatic representation of the information. the sentences provide the usage base and the diagram provides the communicative context. (p91)

White (1981) sees communicative language teaching as necessitating a radical departure from what he calls traditional reading pedagogy. The latter is based upon prescribed texts unrelated to the real world of the learner, and exercises which have no natural connection with the original purpose of the text. By contrast, says White, in the communicative classroom, the teacher provides the pupils with a valid reason for reading the text. The text, therefore, must be of genuine use to them either for business or for pleasure. The text must be the sort of thing the pupils would normally want or need to read, and the exercises based upon it the sort of thing one would normally do in the wake of reading such a text. This principle of authenticity is central to all aspects of communicative language teaching.

Finocchiaro & Brumfit (1983), quoted in Richards & Rogers (1986:67-68), summarise some of the most important elements of communicative language teaching as being:

- Meaning is paramount
- Contextualisation is a basic premise
- Effective communication is sought
- Drilling is peripheral
- Comprehensible pronunciation is sought
- Judicious use of the mother tongue is acceptable

- Reading and writing can start from the first day, if desired
- Fluency and acceptable language is the primary goal; accuracy is judged only in context
- Language is learned by trial and error
- Students must interact with other people
- The teacher never knows exactly what language the students will use.

Clearly, this is a far cry from traditional teaching methods in schools and the full implications for classroom pedagogy in a formal school system, with its syllabuses and other constraints, have yet to be fully extrapolated.

Though the work of the aforementioned researchers has important implications for teachers, it would seem from those researchers' own observations that classroom practice almost everywhere lags behind theory. One obvious but important reason for this is that most researchers are academics. They are fairly remote from the teachers⁴. Most teachers, on the other hand, are so fully occupied with the hurly-burly of the classroom as to have neither the time nor the energy to devote to research, or to developing and disseminating new ideas. Moreover, few of them have an academic background that equips them to articulate new theories to a wide audience. The concept of "action research", as it is now being developed in several countries, may help to remedy this problem.

⁴ In a lecture entitled *National Standards, Assessment and a National Curriculum in the U.K., Australia and the U.S.A.*, conducted at the University of the Witwatersrand on 23 June 1994, visiting Professor Robert E. Shafer of Arizona State University observed that 'in the last ten years there has been a continuing decline in English-speaking countries in the influence of universities on the curricula of teacher-training institutions, especially those for language teachers, because universities were perceived by ministries of education to be imparting too much theory and not enough practical skills to teachers-in-training. Thus, debates which have arisen in those countries over the trend towards the establishment of national curricula and assessment standards have been between government departments and teachers' associations, while academics have had relatively little participation in them.'

2.3 The South African Situation

Addressing specifically the South African school context, Lanham (1986 & 1990) links the interactive model of reading and schema theory to his own empirical research into the reading problems of young black readers, to produce the hypothesis that competent reading in a foreign language involves four main cognitive strategies:

- i) Information present in the text is fitted into a framework of previous experience. This is classic schema theory, and Lanham (1986:1) quotes as his theme text Cassels & Johnstone's (1983) dictum that

meaningful learning only occurs if new information is linked to existing relevant concepts.

But Lanham goes on to argue that, owing to major differences in cultural and life experiences, the young EFL reader's schemata may nowhere near match the English-speaking writer's. In Lanham's words:

Languages are selective in the way they organize the world and different languages provide different conceptual frames through which the child "sees" the world and mentally represents observed events and operations in it.

Such differences are particularly pronounced in young children, whose exposure to the world at large is necessarily limited. Thus, the schematic knowledge which the text demands may be present in their minds in modified form, in rudimentary form, or not at all. Moreover, the young EFL reader may not be familiar with the cues which the writer has used to invoke background knowledge. In such cases, no schemata or the wrong schemata are activated and the reader's comprehension breaks down entirely.

- ii) The reader sets up, as he goes, equivalences between grammatical constructions of English and the mother tongue. This is a means of acquiring momentum in reading, which is itself necessary in order to discern both coherence and cohesion. In cognate languages such equivalences are readily created. In unrelated languages, like English and African languages, the lack of equivalences creates huge comprehension-gaps in the young reader's mind which he cannot bridge by other means. Lanham identifies some fifteen constructs and textual properties common to English narrative prose which, having no direct equivalents in African languages, turn the young black reader's encounter with English text into what Lanham calls "*a struggle for meaning*" (1990:1).
- iii) The reader predicts what is to come on the basis of what has gone before. This top-down activity depends upon the reader being able to free himself from the burden of decoding the text word for word, or of continually having to go back and cast around for the thread of meaning that was lost along the way. Again, momentum is crucial. Lanham (1986:7) points out that:

The words in our vocabulary are extensively linked with others in co-occurrence probabilities arising from formulaic expressions, collocations, idioms and factual knowledge, in fact, all favoured ways of saying things.

Failure to recognise these formulae, along with other cues, prevents the reader from setting up a running hypothesis of what lies ahead. With no very clear idea of what to expect, or the wrong idea, he is constantly being surprised and interrupted by the apparently unrelated propositions of the text.

- iv) The reader constructs from the linear progression of propositions in the text a non-linear framework of inter-relationships. In other words, he identifies

the central theme (seldom overtly present in a text) and builds a coherent picture around it. In a simple narrative text, the theme is more or less represented by the story line. In descriptive and expository text, with their more complex structures, the theme is less obvious and the relationship of parts to the whole more confusing. If the theme is lost, the matrix of coherence breaks down and with it goes comprehension.

The strength and uniqueness of Lanham's contribution to language education lies not so much in his theories as in the extent to which he has been able to convert them into sound teaching practice where it is most needed - in the junior primary classroom. He has written a considerable volume of mother tongue and EFL course materials, which form the basis of the Molteno Project's programme of courses. His influence on the Project's teacher-training programme has been extensive. The practical outcomes of Lanham's ideas are described in Section 4 of this chapter.

Recently, the research of Macdonald (1990, 1993) and van Rooyen (1990) into the issues of language and cognition amongst black primary school pupils has attracted considerable attention from linguists, psychologists and educationists. This research has largely come to notice through the publication of the Threshold Project reports. A layman's version of these, co-authored by Macdonald & Burroughs (1991), has been widely distributed.

Macdonald makes use of theories of developmental psychology to acquire insights into the world of the black primary school pupil. In so doing, she refers repeatedly to the work of Piaget (1971, 1972, 1977), Vygotsky (1962, 1978 & 1987) and constructivist theorists such as Kelly (1955) and Driver (1988). She has perhaps done more than any other South African researcher to expound the notion and importance of metacognition in language development. From Piaget, Macdonald (1993:60-66) extrapolates four points which, she maintains, could be profitably applied to the development of school curricula - including reading curricula:

- i) **Recognition of the developmental stages through which children pass.** Piaget postulated that these are the sensori-motor stage (age 0-2), the pre-operational stage (age 3-7), the concrete operational stage (age 7-12) and the formal operational stage. As has already been noted, this epistemology finds some expression in Chall's reading theory, and Macdonald & Burroughs (1991:46-7) give it further support.
- ii) **Recognition that learning involves the active reconstruction of knowledge.** In order to learn, pupils must be actively engaged in the learning situation. In the language classroom, says Macdonald, this principle may be activated through such methodologies as the language experience approach and communicative language teaching (Macdonald 1993:71).
- iii) **The use of expert teaching strategies to challenge pupils' cognitive learning processes and thereby effect change in their knowledge structures.** Teachers need to be able to perceive what the pupils know, what they need to know and how best to engage their interest in the task of closing the gap in between (Macdonald, 1993:61).
- iv) **Acknowledgment of the value of self-directed learning.** In the classroom, this more or less translates into child-centred teaching methods (Macdonald 1993:61).

Macdonald also sees much of practical value in Vygotsky's theories. Here the influence of social and cultural factors on language and learning is emphasized. Language, and especially written language, was to Vygotsky a system of signs or symbols created by society for the organisation and expression of mental activities. Thus, each society develops its own language, which a child learns in growing up in that society. Education - which, according to Vygotsky,

is a social means for organizing a life-situation that promotes a child's mental development (Macdonald, 1993:62) -

plays a major role in inculcating society's sign-systems into the child's mind. Through this process, language, learning and society are inextricably linked. Vygotsky further contended that, as the child develops, there is a gradual shift in the locus of control of behaviour from the social environment to the individual and the emergence in the child's mind of a conscious awareness of mental processes. This conscious awareness is called metacognition. An important corollary of this proposition is that, at any given stage of development, a child will only be able to solve certain problems with the assistance of an adult or in collaboration with more capable peers. Thus, learning at this level is a mediated experience. The concept of **mediated learning experience** now enjoys widespread currency in educational circles.

Macdonald's recommendations on curriculum development also acknowledges the constructivist perspective that learning is an active process, involving the construction by the learner of new and revised frameworks of meaning from the matching of old and new information; it can be facilitated but not made to happen and at all levels it involves interaction between the learner and his social environment, which includes the teacher and other learners.

The Threshold Project gives a good deal of attention to the problems of language teaching and learning in black primary schools. A detailed examination was made of the language competencies of pupils going from Std 2 into Std 3, the point at which the medium of instruction changes from mother tongue to English. The pupils' competencies were then compared with the demands of the content-subject curricula. The researchers' findings may be summarised as follows (see Macdonald, 1990; van Rooyen, 1990 and Macdonald & Burroughs, 1991):

- i) *The children's listening, speaking, reading and writing skills are poorly developed in both first and second languages.* (Macdonald &

Burroughs, 1991:4). This has serious implications for their future prospects of education.

- ii) There is an enormous disparity between even the optimal language learning outcomes of the most commonly prescribed EFL courses and the demands of the English medium content-subject curricula (Van Rooyen, 1990:98). This mainly comes about through the complete omission from such courses of cognitive, academic-type language.
- iii) Cognitive and, more especially, metacognitive skills are neglected in the language curricula and in classroom practice, resulting in the further inhibition of pupils' language development.

Macdonald's proffered solutions to these problems include the following recommendations for the language classroom:

- i) A gradual transition in the medium of instruction from mother tongue to English (1990b:94)
- ii) Improving the standard of mother tongue literacy teaching at Sub A level, possibly by adopting the language experience approach, as a precursor to more effective EFL acquisition (1990b:94). In this respect, Macdonald gives some credence to the notion of a common underlying proficiency between first and second languages (see Cummins & Swain, 1986)
- iii) Adoption, in second language curricula, of the communicative language teaching model (1993:71).

Specifically on the topic of early reading instruction, Macdonald (1990b:65) notes that:

- *environmental print is an access point into literacy...*
- *predictable reading materials have not yet been exploited in the local context*
- *research on metacognition in reading indicates that younger or poorer readers have trouble monitoring their own comprehension processes; however, monitoring is a strategy which is rarely taught.*

Like Lanham, Macdonald has sought to give her ideas practical expression through the production of primary EFL courses. The extent to which these will in practice result in methodological change remains to be seen.

The next section of this chapter examines the state of reading pedagogy in black primary schools.

3. READING PEDAGOGY IN BLACK SCHOOLS

3.1 Introduction

The children can read; they just don't understand what they are reading.

This comment, made by an experienced junior-primary teacher and former Subject Advisor, encapsulates a view of what reading is, and hence an approach to the teaching of reading, that prevails in many primary schools around the country. A visit to almost any classroom during a reading lesson confirms this. Children sit upright in their seats, their books all held at the regulation 18 inches from their faces and, in time and in tune, chorus the text to the teacher. It is a mechanical exercise, performed *en masse*, so that the mistakes of an individual are lost in the

great vocal stream of the class. One cannot tell from this kind of performance whether the text has any meaning for them. There are no visible signs of comprehension: apart from the sing-song cadence of the approved and standardised reading voice, there are no smiles, no frowns, no individual lift of voice or change of expression as the tide of words rolls on. In short, no one seems to be responding to the text.

Looking more closely at such a typical reading lesson, one sees ominous signs. The pupils' performance is not actually assessed. They are not expected to modulate their voices or evince any change of expression according to the demands of the text, to add appropriate emphasis, to pause for change of thought, or to make any change in vocal pitch, power or pace for meaningful effect. Keeping in oral step with the rest of the class is all that is required of them. Indeed, stirrings of individual response to the text, however appropriate they may be, are often suppressed by a reproving look or word from the teacher - or, frequently enough, by an increase in volume from the rest of the class, who have apparently learned to fear spontaneity in their midst as much as their teacher does.

The pupils are seldom asked to review what they have read in their own words. They are not called upon to transfer the written word into another medium of expression such as pictures or actions (other than the occasional pre-rehearsed mime); or to apply information gleaned from the text to a problem posed by the teacher; or to express a personal opinion. When they are asked to do any of these things, most of the pupils are at a complete loss. The only questions they can occasionally cope with are detail-specific and close-ended: Who said such-and-such? What was so-and-so doing? There can only be one correct answer to each of these questions and it can be extracted verbatim from the text. Almost without exception, the teachers appear satisfied with this state of affairs.

Three principal reasons for this situation, which researchers describe with depressing consistency (see, for example, Rodseth:1978, Lanham:1984, Peacock:1991 and McDonald & Burroughs:1991), may be identified:

- i) The teachers' own limited reading proficiency, particularly in English.
- ii) Their use of inappropriate teaching methods, resulting from inadequate methodological training.
- iii) A shortage of appropriate texts.

Each of these factors bears amplification.

3.2 Teachers' Language Proficiency

Chapter One of this thesis gives a brief history of South Africa's language in education policy and notes that for many years this incorporated a concerted effort by the authorities to promote the use of Afrikaans at the expense of English. There was also consistent neglect of black education, in terms of both the quantity and the quality of state provision (Hartshorne, 1992:11).

There is consensus amongst researchers that a high percentage of today's teachers, themselves products of the Bantu Education system, reflect the failures of that system in their limited English proficiency. As Hartshorne (1992:206), already quoted in Chapter 1, observes:

The effects of both policy and practice over the last thirty-five years have been to... lower the standards of English throughout the system.

This is no exaggeration. Lanham (1967:6) describes teachers' English competence, as it emerged from a specially-devised proficiency test, in gloomy terms:

Only a very small percentage of primary-school teachers, located mainly in English-speaking cities, belongs to a generation that commands the best African English on the continent... The English of

more than 70% of [teacher trainees] is totally inadequate for an oral-aural approach in the classroom...

In 1984:3 he adds:

The English of the classroom was frequently limited, both in quantity and quality, by the primary school teachers' lack of competence in spoken English.

The effect of this on reading instruction is suggested by a further comment from Lanham (1984:4):

It became clear at an early stage that problems of English spelling were compounded by a total lack of understanding on the part of the teachers of the system of English pronunciation.

For example, according to Lanham, teachers "firmly believed" that English has five vowel sounds which are perfectly matched by the five vowel letters of the alphabet.

Other aspects of teachers' English language competence had been investigated by Lanham in 1963. He reports (1984:4):

In pronunciation, African English was progressively deviating from norms of international English threatening to create a situation already reached in India where, in 1959, a British Council report stated:

"And so, it is no exaggeration to say that the vast majority of those responsible for teaching the English language in East Pakistan are themselves incapable of understanding a single sentence spoken by a native speaker..."

The low level of English proficiency amongst black primary teachers in particular has been noted by a number of other researchers, including Rodseth (1978 & 1985), Macdonald (1990 & 1990b), Langhan (1990), Peacock (1991) and Prentice (n.d.).

In a report on the English language proficiency of black primary teachers in Soweto, Rodseth (1985b:2-3) states:

They have very little opportunity in their everyday lives to speak English, particularly with English speakers. Because of this, most of them have made a number of 'faulty' generalisations about the structures of English, and evidence many instances of non-standard usage of the English language, caused by mother tongue interference and by a number of generations of bad teaching. Their learning of standard English has usually halted at a point where their command of the language enables them to cope in situations where English is called for. The 'inter-language' which they have mastered has usually been fossilised, and then been elaborated along unconventional lines...

Most of the teachers have very poor reading skills. many have still not reached the stage where reading is automatic. they find it physically difficult and burdensome, and read very slowly...

Because of these factors, and because of many demands on their time, they read very little...

Because of their lack of reading experience, and because of the narrowness of their educational experience, they tend to be uncritical in their reading. They often have difficulty in perceiving the structure of discourse, in picking out main ideas, and in seeing the relationship between ideas.

Macdonald offers a similar observation (1990:39):

More than a generation of black pupils have been denied direct access to mother tongue models of English. Many black teachers of English have never spoken English to mother tongue speakers. Serving as surrogates for genuine interaction in English have been small English language books based on structuralist principles.

Some measure of the teachers' resulting inability to cope with expository text in content subjects is given by Langhan (1990), who itemises a number of difficulties experienced by Std 3 Geography teachers who tried unsuccessfully to read the Geography textbooks prescribed for their standard. The teachers, he found (p220):

- 1) *often lacked the background knowledge necessary to interact meaningfully with the texts;*
- 2) *misinterpreted, misunderstood or did not know the meanings of terms whose meanings were not established in the texts;*
- 3) *misunderstood whole sections of the texts because the meanings of register terms had not been clearly established;*
- 4) *were often unable to work out the meanings of unknown vocabulary because of the absence of semantic reinforcement...*
- 9) *were sometimes unable to locate referents within the passages due to obscure cohesive links.*

Langhan's conclusion is that (p223):

Specifically, the weaknesses of the teachers were:

- *poor levels of reading competence, revealed in their difficulties in processing [a] partially incomprehensible textbook passage; ...*
- *not recognizing the extent to which language is the problem, revealed in their perception that the textbooks did not present them with any difficulties.*

In the same vein, Prentice (n.d.:1) found that in a group of 55 junior primary teachers, the mean score on a cloze test derived from a *Std 4 reader* was only 58%. And, in the course of the field research upon which this thesis is based, this researcher found teachers who were no better able to read the tests than were their SSB pupils.

That the situation is recognised by, and is cause for concern to, at least some senior DET officials is evidenced by references to it in official communications. For example, a 1989 memorandum⁵ on the implications of the HSRC's evaluation of EFL courses in black primary schools states:

Although not in the main line of this [HSRC] report the recent development of the Bridge courses has raised central issues in curriculum development; for example, if we write material that will prepare students adequately for the transition to standard 3 we inadvertently discover:

⁵ Memorandum dated 5/1/89, file 6/16/5, from Assistant Director: English to Deputy Director: Languages.

- (a) *that this preparation takes an apparently inordinate amount of the student's time and*
- (b) *the teachers themselves are not adequate to the demands of the curriculum*

The teachers' generally poor level of reading competence, in both English and the mother tongue, has an effect on their teaching of reading that goes beyond the linguistic. It prevents them from inculcating in their pupils the affinity for books that is essential to the development of a reading culture. In the words of two slogans from Nuttall (1982:192):

Readers are made by readers. (Readers refers to people in both cases.)

Reading is like an infectious disease: it is caught not taught. (And you can't catch it from someone who hasn't got it himself.

Given this link between teachers' and learners' reading proficiency, there is at present a real danger of standards of reading proficiency in black schools becoming locked in a downward spiral⁶.

⁶ Moyo (1993:34) found evidence of this in Zimbabwe. From her comparative study of the linguistic competence of student teachers in their second year of training and Form One [= Std 6 RSA/ eighth grade] pupils, she reports that:

The comparison showed that errors of sentence construction, lexis and preposition were more at teacher-trainee level than at Form One level... 40% of the spelling errors were committed by teacher-trainees, which is quite a high frequency for students who were preparing to be specialist teachers of English.

[Some] student teachers... had English language proficiency which was lower than that of Form One pupils similar to those they would be teaching after their first year at college.

3.2 Teachers' Methodological Training

Turning to the influence of teacher-training courses on reading pedagogy, one confronts an equally lamentable situation. Since teacher-training at the black colleges of education is largely through the medium of English and Afrikaans, one must assume that trainees who are weak in those languages (i.e. most of them) are hampered in their efforts to understand what is being taught in the course. This may partially explain why the colleges generally have a poor reputation for quality (Hartshorne, 1992:247; NEPI, 1992b:14-15).

Hartshorne (1992:243) again gives some of the background:

There are many reasons for the deterioration of English in black schools, but there is no doubt that one of the main contributing factors was the disappearance of mother tongue English speakers from the staff of the training colleges. This was the result both of resignations of white English-speaking teachers because they could not live with the new ideological directions being imposed by the department, and also the resistance of the latter to the appointment of younger English-speaking teachers, particularly if they came from universities such as Cape Town or the Witwatersrand,... even when the posts were specifically for English. Nor is there any question but that there was a concerted attempt on the part of the department to favour Afrikaans at the expense of English.

It is important to note that the outcome of official policy in the colleges was not simply a matter of falling standards of English - though that would have been catastrophic enough. Hartshorne goes on to show that more damaging in the long term was the ascendancy in the colleges, and thence in the schools, of an authoritarian, prescriptive form of education typified by a central course in the college curricula, Fundamental Pedagogics.

Fundamental Pedagogics and its effect on teaching practice has been analyzed by such researchers as Enslin (1990) and Nuttall (1993). It forms the theoretical core of the colleges' approach to education. As Enslin (1990:80-82) states:

"Pedagogics" or "theory of education" comprises various part-disciplines, for example psychopedagogics and sociopedagogics. Fundamental Pedagogics, one of these part-disciplines, is the epistemological grounding for the others... It is the dominant approach to the study of education in the Afrikaans-language universities and colleges of education, and at the bilingual University of South Africa. More importantly, it is also the dominant approach to education at the ethnic or black universities ... as well as the black colleges of education. These segregated black universities and colleges have been dominated by Afrikaner academics, who comprise the overwhelming majority of the teaching corps within these institutions. Their courses in educational theory are taught almost exclusively through Fundamental Pedagogics. Most teachers in South Africa - and almost all black teachers - are educated within this approach.

Through an analysis of a seminal text by the major apologists for Fundamental Pedagogics, Landman *et al* (1981), Nuttall (1993) shows that its philosophy firmly promotes the idea that there is only one right way to teach, namely by more or less authoritarian transmission methods. A few excerpts from Landman, quoted in Nuttall, illustrate this:

The teacher is an exceptional adult. An adult is justly regarded as an adult because he knows the meaningfulness of trust, understanding and authority in human relations, and because he can explain it to the child. (p6)

The intimacy of the trusting educative meeting (encounter) makes an increasing intensification of educative authority possible. This implies

that the teacher's intensive, authoritative guidance and the child's compliance with authority become possible. (p8)

It can be deduced ... that the teacher deserves the title bearer of authority since he can address the child on his participation in the actualization of trusting, authoritative and understanding encounters in education situations...If it should happen that the child rejects the authority of the teacher he will definitely not become a proper adult (mature person). (pp10-11)

Nuttall (1993:21-22) also gives numerous examples of how

FP literature includes attempts to discredit and reject other approaches to education, and often includes detailed descriptions of how educators and 'educands' can be made morally defensible against them...

FP's attitude to learning, and to teachers' and pupils' roles in the process of learning, sheds light on much of the authoritarian and rote-focused pedagogic practice prevalent in schools and colleges today. ...

In this view, he is entirely in accord with Enslin (1990), who says:

In Fundamental Pedagogics we have not merely a false view of education and how to theorize it, but a practice which determines how teachers come to see themselves and their actions as teachers. By means of Fundamental Pedagogics teachers are subjects themselves and agents of subjection ... They are required to perceive children as helpless, incompetent, and ... in need of authority to save them from their own evil inclinations.

The NEPI report on teacher education (1992b:17) concurs:

The pretensions to scientific objectivity of Fundamental Pedagogics, together with the way it is taught, prevent teachers from developing an understanding of the relationship between education and the context in which knowledge and understanding are created and shared.

Imbued with the tenets of Fundamental Pedagogics, the teacher-in-training is taught the contents of the relevant syllabuses. Currently a total of 1 400 syllabuses are in use in South African schools, thirty-three of them in SSA alone. In terms of this thesis, a key syllabus is that for *Primary Subject Didactics: Second Language (English)*, 1985, for both junior and senior primary. It is typical of the syllabuses of which Nuttall (1993:25) writes:

[The syllabuses] are prescriptive and detailed, allowing almost no room for teacher initiative.

Nevertheless, they are inadequate guides to what should or could be done in the classroom. Nuttall again (pp29-31; original emphasis):

The syllabuses are characterised, paradoxically, by both explicit prescription and inexplicit vagueness. For example,... in the second year we find:

"1.8 Spelling

The student should be made aware of the importance of spelling. Spelling problems are usually experienced by individual pupils and the student should be taught how to help such pupils to solve their specific problems. The student's approach to the teaching of spelling should, therefore, be diversified. The

advantages and disadvantages of different methods must be discussed. A number of effective spelling games must be taught."

Despite occasional references to 'communicative' or 'eclectic' approaches, the syllabuses are in fact based on a structural view of language and language use, and 'the language skills' are treated quite separately and discretely: listening and speaking are first-year topics, while reading and writing are not encountered until the third year. The skills are treated very mechanistically...

Two other points are worthy of note at this stage:

- o apart from one or two vague references to 'language across the curriculum', there is no explicit treatment of English as the medium of instruction, nor of its linguistic and cognitive implications;*
- o there is emphasis in the syllabuses on the need to develop the student teacher's competence at the level of the junior primary pupil -*

"The student will also be expected to have a thorough knowledge of these items in the sense that he must know their functions and be able to do correctly any exercise set on them at the Sub-Standard B to Standard 2 level... The student must be able to use these language items in building simple sentences ... While the methodology ... must receive attention throughout, the student's own ability to use the structures correctly remains of prime importance."

Discussing the effects of the syllabuses on classroom practice, Nuttall goes on to

say:

While it is obvious that these syllabuses will change sometime soon (a senior DET official recently described them as "awful, embarrassing"), it is equally obvious that their influence - in terms of inter alia college teaching methodology and views of language learning and teaching - will remain strong for some time to come...

It will take some time for deeply ingrained habits, attitudes, methodologies and educational 'philosophies' to change to any marked extent. It is reasonable to expect that for some time to come, language teacher education in the majority of colleges will be permeated with FP principles and very rigid views of language teaching and learning. (pp29 & 32)

Finally, it must be noted that, even in terms of the colleges' low standards and often inappropriate criteria for the certification of teachers, official statistics quoted by the Education Foundation (Dec 1993) reveal that a high percentage of teachers are underqualified or unqualified. Nuttall & Langan (1994:4) report that:

Turning to the teacher population specifically, one finds a typical developing nation situation: 1991 figures (NEPI, 1992b) show that in the DET 57.1% of teachers fall below the established norms for teacher qualification, while at primary school level this figure rises to 74.9%. The figures also show that 16% of black primary school teachers had no professional qualifications. If the norms for teacher qualification in white education were applied to black education, then more than 75% of all teachers would be underqualified.

Proportionally, there is a higher concentration of inadequately qualified teachers in the junior primary phase than elsewhere.

The limitations of the teachers' training are compounded by the problems of large classes and overcrowded classrooms. Official figures give the average pupil:teacher ratio in black schools is 40:1, as opposed to 20:1 in white schools (Strauss, *et al*: 1993). In practice, pupil:classroom ratios are much higher, typically 50:1. This researcher has often seen classes much bigger even than that, shoe-horned into spartan classrooms, classrooms with no windows and often no books, or sitting under trees⁷. Obviously, this is not conducive to good teaching practice⁸.

3.3 Shortage of Suitable Texts

All textbooks, including basal readers, used in South African state schools must be approved by the relevant education department. The current selection poses numerous problems for the young black reader. As already noted, Lanham (1990) has identified some fifteen constructs and textual properties common to the EFL basal readers which, having no correspondences in African languages, tend to trip the very readers for whom they were written. This, in turn, has the effect of thwarting

the primary aim of stimulating, interesting and delighting the emerging young bilingual. (Lanham, 1990:1)

As has also been noted, Langan (1990) has examined the readability of the

⁷ An anecdote: In the course of this research, one of the testers arrived at a rural school during break-time and parked under a large tree, the only shade available. When the break ended a few minutes later, he was approached by a teacher who requested him to remove his car from her "classroom".

⁸ In an article in *The Star* (Johannesburg) newspaper on 15 September 1992, Mr Doug McAvoy, leader of Britain's National Union of Teachers, is quoted as saying "If you have 35 children in a class, you haven't the time or resources to teach them how to read." If that is true for Britain's well-qualified teachers and well-resourced schools, then how much more so for South Africa's impoverished schools and undertrained teachers.

content subject textbooks which are encountered in Std 3. His conclusion is that these are largely incomprehensible to teachers and pupils alike. Some of the deficiencies he finds on the part of the teachers have already been itemised in 3.i above. Of the texts themselves, he writes (p224):

Their incomprehensibility is mainly due to their failure to account for the intended readers' linguistic and conceptual threshold levels, and - because they fail extensively as well-constructed expository discourse. Specifically, they are incomprehensible as a result of the cumulative impact of:

- *false assumptions about what is accessible background knowledge;*
- *thematic incoherence;*
- *propositional deficiency;*
- *absence of logical relations between propositions;*
- *obscure reference;*
- *the meanings of unknown words and register terms are not established;*
- *incomprehensibility of supporting maps and diagrams.*

(Apart from that, one can almost hear him say, they are well-written.)

In other words, the books are frequently unreadable. Macdonald (1990:45; original emphasis), whose research brought her to similar conclusions, spells out the implications:

One thing we did discover was that it is not feasible, fair or just to use content subject textbooks in their present form. The goalposts that have been placed at Std 3 level without due regard for the learning experiences and capabilities of children coming up from the junior primary phase will have to be moved to a fairer position.

Again, though, the problem of the inaccessibility of books has implications beyond the level of linguistics. The type of text in use inevitably effects pedagogical practice and the general pattern of relationships between teacher, learner and task. Just as good masters make good servants, good texts - that is, usable texts - tend to make for good teaching practice and effective learning. Bad texts - texts that baffle the reader - have the opposite effect. This is especially true in classrooms, such as those under consideration here, where the approved text has the weight of all authority behind it.

In this connection, the work of Shannon (1989) and Walsh (1991) is interesting. These researchers (working, let it be said, in American schools) analyze the relations of power and control at work in the classroom and conclude that textbooks have the ability to influence these relationships. Walsh (1991:11) opines:

This [ability] lies not in the materials themselves but in the wider relations their use engenders, in the assumptions they promote, in the meanings they fashion, and in the actions they encourage. The emphasis on teachers as the agents and managers of commercial texts and students as the passive consumers, for example, may promote better classroom "control" only because it discourages questioning, creativity, teacher and student agency, and shuts out all forms of difference. The intent is to render students and teachers both voiceless and powerless by encouraging conformity and a legitimation and maintenance of the status quo.

As an example of this, Walsh cites the belief, implicit in many textbooks, that knowledge

is separable from the individual and from his/her actions, experience and social context. It is considered quantifiable, verifiable information that is beyond students and which must be formally acquired... The

acquisition or "learning" of knowledge is treated as deductive and deterministic... Learning thus becomes synonymous with an unquestioned absorption. Consequently, teaching is relegated to a transmission-oriented task... Students and teachers are controlled by the curriculum, its content and methodology... As a result, learning and the iteration of textbook knowledge are rendered identical. (p9)

This researcher is not aware of any comprehensive analysis of the extent to which this phenomenon may be true of junior primary textbooks in South African schools, but no one who is at all familiar with education here can fail to notice the pre-occupation with control. Certainly, there has in the past been public outcry over the ideological content of some secondary school textbooks, especially in subjects with political undertones, like history. It would seem logical to assume that primary school texts also serve to entrench official perspectives on society and education. Fundamental pedagogics would not have it any other way.

3.4 Classroom Practice

One of the results of these factors - teachers' limited language competence, transmission methodology and inappropriate texts - is reading lessons like those described at the beginning of this section. There is considerable research evidence of this.

At the time of the original research that led to the initiating of the Molteno Project, Rodseth (1978:17) described the state of language teaching practice in the average black school:

Many observations of lessons... led the research team to the conviction that the African child's brilliant flair for mimicry is being exploited to achieve dubious ends: with depressing predictability,

pupils speak set pieces like automata... Current language teaching in black primary schools tends to emphasize the echoic rather than the cognitive.

Not surprisingly, the result was that

For many children the way out is to memorize the text in their readers and to recite it rather than read it ... Sub B children can read from their readers held upside down. (Rodseth, 1978:17)

Cook, Schiff & Wade (no date), quoted in Rodseth (1987:34), testify to both the nature and the extent of the problem:

Class reading is almost useless from the teaching point of view. Every inspector can tell you of whole classes shouting in unison, sometimes with books upside down, lessons which have been memorised by listening to good readers, but which are not really being read.

This researcher has observed the same phenomenon many times. It is doubtless related to the belief of many teachers that "reading" need not entail comprehension and the popular theory, propagated by some exponents of Freirean approaches to literacy, that any initial lack of comprehension on the part of the readers will be compensated for by their exultation over the sense of personal empowerment which reading brings.

Apart from the endless chorusing of the reading class, there is very little in the way of progressive reading instruction. Much time is spent, in the mother tongue writing period, on memorising syllables and phonemes of the language. Children copy and chant these in unvarying order:

ba, be, bi, bo, bu
ma, me, mi, mo , mu

and so on.

Macdonald & Burroughs (1991:20) note the snowballing Pygmalion effect which this lack of real challenge has on pupils:

Teachers generally expect very little initiative of their children, and this affects the pace at which the children work. As the children get very little done, the teachers get through less work than they should... Before the introduction of the Breakthrough to Literacy courses, it was thought that Grade 1 [= Sub A] children could only write letters, not words.

This researcher has encountered in rural schools some Grade 1 (SSA) teachers who, being only semi-literate, considered their job well done if they were able to teach their pupils, in the course of a year, to recognise and sound out those five or six letters of the alphabet with which the teachers themselves were most familiar.

Reliance on drilling syllables is entirely at odds with current theories of reading and reading pedagogy. Grellet (1981:6) refers specifically to the importance of working with whole units of meaning:

If reading is to be efficient, the structure of longer units such as the paragraph or the whole text must be understood. It is no good studying a text as though it were a series of independent units...

It is clear, as a consequence of [this], that one should start with global understanding and move towards detailed understanding rather than working the other way round.

No research that this researcher is aware of indicates that any substantial numbers of teachers in black primary schools are tackling reading as an interactive activity or attempting to develop their pupils' higher order skills. All available evidence indicates that, in reality, the pace and quality of literacy learning in black primary schools is that described by Rodseth (1978:53):

Enliteration in the mother tongue in Sub. A [=SSA/Grade 1] is generally so slow and so poor that, as a number of senior education officials have acknowledged, many pupils actually learn to read in English and not in the mother tongue. Because reading English is partially and sometimes wholly an enliteration process for Africans, problems in learning to read which face English-speaking children will a fortiori be manifoldly greater for Africans.

More recently, Macdonald (1993:74) reports on the poor level of reading proficiency which the Threshold team encountered in black primary schools (original emphasis):

On reading tasks the children cannot answer low-level inference questions that demand that they go beyond the information explicitly given in the text. they also find it difficult to answer 'factual' questions, the answers to which are locatable in the text. There appears to be a measure of difficulty with WH-questions (who, what, why, etc.), that are central to reaching a linguistic understanding of agency, effect, cause, reason, and so on.

An ominous sign for the standard of instruction generally is Van Rooyen's (1990:2) observation that

The teacher's own English competence may also not be of such a

standard that she can adapt her register to suit the simple comprehension competence of the children.

It has already been noted, on the basis of research by Lanham (1990) and Langan (1990), that the prescribed texts, both in the mother tongue and English, are largely inaccessible to pupils. Van Rooyen's comment seems to indicate that the teachers' talk is often equally incomprehensible. If so, then the children are constantly being placed in the unhappy position of not understanding what it is they are supposed to be doing or learning.

Research by Liddell, *et al* (1993) suggests that this is indeed the case and that the pattern has been set before the children start school. Liddell's team conducted a tracer study of eighty black children, representative of that population age-group as a whole, from age five to age eight, examining every aspect of their daily lives in order to identify factors which might contribute to their success or failure in school. Altogether, thirty-five factors that might predict the children's chances of success in school were considered. Concerning books and teaching Liddell reports that, in the year before the children went to school,

Books were in use 3% of the time, which... is the same amount of time as Euro-American children spend with books. However, the books were not suitable for the acquisition of early literacy: no child owned a children's book, so contact with books meant that children were trying to use adults' or older siblings' reading material, which they may have had difficulty in interpreting. (p11)

Not only were the books which the children first encountered unsupportive of their efforts to learn to read, but:

Their discussions of school were rarely of a positive nature - school was perceived as a challenging and often cruel experience, lore that was handed down to these children from their older peers. It seems

unlikely, therefore, that the children began school in a particularly positive frame of mind. (p13)

Of Liddell's original sample of 80 children, only 46 (i.e. 60%) managed to start school at age 6. Of these 18 (39%) failed SSA. Liddell found that only one of the thirty-five factors under consideration significantly predicted children's chances of success at school: children who asked adults a lot of questions in the year before school were more likely to pass SSA. Liddell concludes that, there being only one significant factor out of 35, the home environment is not the prime cause of failure in SSA; instead, poor schooling is identified as the likely prime cause. In the official HSRC press release accompanying the publication of the report, Liddell says:

It's been difficult watching young children we have come to know well during the research project,... who looked forward to starting school,... fail this first school hurdle. They have lost confidence, are often ashamed, usually puzzled as to what went wrong. In every case, they now hate going to school...

Often it is the brightest children of all who seem most at risk. As one of the children told us: "School? It's where they make a fool of you."

There is, then, evidence from several sources to indicate that the teaching of reading, as part of the overall curriculum in black primary schools, is generally of a very poor standard. This is not a situation unique to South Africa. Hawes (1979:182), reviewing the state of the curricula in theory and practice in ten African countries, has this to say about the development of language skills:

There is a realisation that the development of communication skills is the first curriculum priority and that in many countries a crisis situation exists in schools, with a large proportion of the children unable to comprehend the reading material placed in front of them.

The Molteno Project's strategy for addressing this problem must now be considered.

4. THE ROLE OF READING IN MOLTENO COURSES

4.1 Overview

As mentioned before, the Molteno Project views

the acquisition of the reading skill [as] the primary objective in both the Breakthrough and Bridge to English programmes. (Lanham, 1984:3)

The Project has always placed great emphasis on reading, believing that the ability to read instructional text is *the* critical skill for the child's future. This is so because:

- Without a good foundation in reading, the pupil cannot cope with content-subject textbooks at the senior primary level and beyond.
- A high-level of reading competence on the part of the pupil may offset some of the bad influences of the teacher's poor use of English.
- Large classes mean that pupils are frequently left to their own devices when it comes to acquiring knowledge.
- Reading is a demonstrable skill that, thoroughly mastered, may give one an edge over less-capable candidates in a competitive job market; in West's words (1963), quoted in Rodseth (1975:131), reading has the second highest "surrender value" of all skills after formal

education has ceased. (The highest is the ability to learn on one's own).

- The presence of good reading courses in the classroom has a powerful upgrading effect on the standard of oral and written English of both pupils and teachers. Rodseth (1978:131) found that:

The integration of reading passages, moreover, into oral and writing lessons can effectively improve oral and written standards. Reading-based oral and written lessons can also help teachers whose command of the language is weak.

Unfortunately, the English of southern Africa's junior-primary classrooms

is frequently limited in both quality and quantity by the teachers' lack of competency in spoken English (Lanham, 1984:1).

By contrast, in printed texts such as textbooks and readers, pupils encounter English which is not only more accurate and demanding, but also more authentic in terms of what they are likely to be confronted with in the content-embedded subjects of the higher-primary phase and the world of adult employment. An awareness of this, too, underlies Molteno's emphasis on reading for meaning.

Nuttall and Langan (in press:14) claim that the Project has responded to the educational needs of teachers and pupils by:

adopting an holistic approach to the role of languages as the vehicles for learning in the primary school.

Within this "holistic approach", reading in both the mother tongue and English occupies pride of place. Nuttall & Langan (in press:15; original emphases) state:

To this end the Project's research has resulted in the following guiding principles for the development of its language teaching and learning programmes:

- 1) The importance of mother-tongue literacy as a foundation for the effective learning of a second language... This view is based on the hypothesis that the cognitive academic linguistic proficiencies of first and second languages are interdependent, and that for this proficiency to develop in the second language, a certain level of cognitive and linguistic development must already have taken place in the first language... As a corollary to this principle, the Project has always favoured a gradual transition from mother-tongue to English medium instruction when English is not the learners' home language.*
- 2) Bilingual instruction as a means of facilitating meaningful learning in a second language. ... The Project's particular model incorporates a two-pronged approach. The first refers to the development of learners' first and second language competencies through separate but parallel African and English language programmes which have been developed to fit into the formal curricula for each language ... The second refers to the integration of the use of the learners' first language into the English programme as a means of introducing and or explaining difficult or unfamiliar vocabulary and concepts.*

A number of other "guiding principles" are enumerated but they are outside the domain of this thesis.

As described in Chapter 1 of this thesis, the Project has developed a series of courses intended to bring the pupil to the point where she can cope with an

English-medium education from the fifth year of school onwards. This series begins with Breakthrough to Literacy, a mother-tongue literacy course for Grade 1 and proceeds to a series of English courses, collectively called Bridge To English, which currently extend from the first to the fourth year of school. Other courses are in preparation but, at the time of writing, the programme of courses was described in a Molteno Project publicity brochure as:

THE PROGRAMME OF COURSES

SSA Breakthrough to Literacy

A mother-tongue literacy course, based on the child-centred and language experience approaches, in eleven southern African languages.

SSB Bridge to English

A first English course for the primary school. After a 12-week "oral stage", children use their mother-tongue reading skills to develop reading, and then writing, skills in English.

STD 1 Bridge Plus One

An English development course for Std.1, which extends English skills across the curriculum with a strong emphasis on reading.

STD 2 Bridge Plus Two

An integrated English course for Std.2, which prepares pupils for English-medium instruction in Std.3, with a focus on using English to learn other subjects.

4.2 The Mother Tongue Course

Breakthrough in African languages closely resembles its English counterpart. In each lesson, the teacher sits with the pupils (who are divided into small groups for this purpose) and generates a discussion using a poster or other stimulus material. She guides the conversation to the point where one of the pupils spontaneously and of his own originality utters a sentence more or less like one the teacher has had in her own mind all along. This is the "key sentence" for that lesson. The teacher constructs the key sentence on a plastic stand using flashcards from a set provided; this set of flashcards comprises the high frequency word stems, prefixes and suffixes of the language. Using the cards which make up the key sentence, the teacher demonstrates how speech is composed of sentences, which are in turn composed of words, syllables and letters; the concepts of left-to-right writing and spaces between words are also thus demonstrated. Later on, specific sound-letter relationships are introduced. The children practise recognising the cards, re-arranging them to form variations of the key sentence, and finding and replacing them in the storage panel or "sentence-maker". The teacher writes the key sentence in the pupils' exercise books and the children illustrate them as a reinforcement exercise. They also practise writing letter patterns and, a little later, actual letters of the alphabet. Gradually, more key sentences are added to the pupils' repertoire - all of them elicited from the pupils' own talk - until they are able spontaneously to compose their own sentences from the sentence-maker by themselves. Thereafter, they write their own sentences in their workbooks and begin composing "stories" which form the basis for their reading. Thus, as the teachers' manual emphasizes, **what the children think becomes what they say, becomes what they write, becomes what they read.**

All the time, the pupils work together in groups so there is a good deal of peer-teaching and discovery-learning. Eventually, about two-thirds of the way through the year, the children have no further need of the sentence-maker as they know all its cards at a glance, have mastered the phonemes and graphemes of their language, and are able to compose sentences in written form directly into their

books without the intermediate step of the flashcards. There is set of fourteen graded basal readers, by the end of which pupils are able to cope with much reading matter in their own language, such as storybooks, comics, magazines, newspapers - in many cases, even the Bible. It is also worth noting that the first six readers of the Breakthrough set (in its Molteno Project version for southern African languages) are edited versions of children's own stories collected from classrooms around the country. Thus the principles of "whole stories" and authentic texts are observed.

The last story in the set of readers is available in English translation. This enables a good teacher to try some bilingual teaching with bright pupils who have already had some exposure to English.

Although the course begins with a "look-and-say" approach based on whole sentences and then words, once the pupils can recognise on flashcards the first set of thirteen stems and seven prefixes, a systematic programme of instruction in phonics is introduced. Phonic exercises drawn from the key sentences, the writing tasks and the basal readers are incorporated into the weekly routine and are reinforced by the use of posters, illustrating the phonemes of the language, which are pinned up around the wall lesson-by-lesson to form a "phonic frieze". This is clearly an attempt to place phonics in a meaningful context and it is interesting to note how it ties in with Hughes' (1972:7) comment that:

I have obtained best results by beginning with the Look and Say and Sentence Methods but introducing preparatory phonics at a very much earlier age than that suggested by many educationists.

On a theoretical level, Breakthrough is the language experience approach developed into a step-by-step programme of instruction. It has a number of highly child-centred features:

- The pupils provide the actual language content of the lesson, generating the key sentences.
- The resulting texts are pupils' own work.
- Pupils are involved as active participants in the learning process: in every lesson, each pupil has a chance to talk, to write something original, to read something he or his friends have written and to perform meaningful consolidation and reinforcement exercises.
- The division of the class into ability groups enables each pupil to proceed at his own pace.

This is not the place for a detailed theoretical evaluation of Breakthrough. For that, Goodacre (1971), Morris (1973), Reid (1974) and Roberts (1979) should be consulted. Suffice to say here that, by and large, classroom practice as envisaged by the Breakthrough manual (Rodseth;1985:2) generally accords with its stated aims, which include:

- *to teach an understanding of the writing system...*
- *to teach reading and writing as part of learning about language, and to integrate them with listening and speaking.*
- *to make reading and writing purposeful and interesting to the children...*
- *to provide a meaningful learning situation for children - especially for those who come from backgrounds lacking in reading materials and familiarity with reading.*

- *to encourage children to be original and creative in their writing.*

It is also apparent that Breakthrough represents a concerted effort to place the process of learning to read at school firmly within the linguistic, cognitive and social domain of the child, and to invoke as many pathways - oral, aural, visual and tactile - as possible to knowledge.

As was further noted in Chapter 1, Section 3, of this thesis, implicit in the Molteno Project's programme of courses is the belief that certain basic literacy skills and knowledge are transferable from the first to the second and subsequent languages. Macdonald (1993:72) notes that this interdependence hypothesis is strongly supported by the research of Swain *et al* (1990), who claim that knowledge of mother tongue literacy skills is transferable even to languages not linguistically cognate to the mother tongue, and that the transferability of this knowledge does not depend upon the mother tongue literacy skills' still being in use. Moreover, interdependence of literacy skills does not presuppose directionality of transfer (Macdonald, 1993:71). In other words, reading development in one of the learner's languages promotes similar advancement in the other(s). The implication for the Molteno Project is that the sound foundation in literacy established by Breakthrough may both contribute to and itself be reinforced by the Project's follow-on English courses.

4.3 The English Courses

Bridge to English was designed from the start to follow Breakthrough. In terms of methodology, content and underlying philosophy it picks up and extends many of Breakthrough's essential principles. For example, it repeats much of the child-centred, small-group method, peer-teaching and learning through activity and discovery.

The transfer of mother tongue literacy skills is explicitly taken up in **Bridge**. After a twelve week oral stage in which children are taught basic classroom English through an eclectic combination of mainly direct-teaching methods (including situational and communicative language teaching, and some Total Physical Response), the pupils are given published workbooks and reading and writing are introduced. Immediately, previously-acquired skills can be used: the first four of the eighteen steps in the course can be read by the pupils using mother tongue reading skills alone. This is possible because only sound-letter relationships common to both English and African languages are used in these steps.

Lanham's strong background in African languages and phonology is evident here. He identifies four problem areas in English pronunciation and spelling for African language speakers (Lanham, 1984b:217-230 and Lanham 1992:87-92):

- i) **Vowel sounds:** whereas southern African languages have either five (Nguni) or seven (Sotho) simple vowel sounds, English has twenty, the majority of which are not found in African languages.
- ii) **Stress and intonation:** In English at least four distinguishable levels of syllable prominence (i.e. stress - a combination of loudness, vowel duration and change of pitch) may be discerned. African languages have no equivalent to this, though they have their own complex systems of rising and falling tones.
- iii) **Spelling:** In African languages spelling is phonetically regular. In English it is not.
- iv) **Consonants:** Though African languages are rich in consonant sounds, there are a few in English which do not occur in southern African languages, /th/ being a prime example.

For reading purposes, (i) and (iii) are critical, though the other two also create difficulties when the reader has to equate the written with the spoken word, as in reading aloud or taking dictation. In Bridge, these problems are overcome by two unique strategies:

- i) **Graded phonics.** After the first four units, the unfamiliar sounds of English are phased in - from those which most closely approximate African vowel sounds to those farthest removed. Only one vowel sound is introduced at a time, and all its variations in spelling are covered before the next sound is introduced. Thus, pupils are thoroughly familiarised with the concept of phonic families and English spelling is demystified. The regular patterns that do exist in English spelling begin to emerge. (Along the way, irregularly-spelled high-frequency words, such as *a*, *are* and *the*, are presented as look-and-say items.)
- ii) **"Bridge spelling".** In this ingenious system, diacritical or sound-help marks are placed around letters to provide pupils with a close sound-symbol correspondence, especially in vowel sounds. The effect of this "Bridge spelling" is further to simplify the complexities of English spelling. Phonic decoding, that linchpin of initial reading which EFL students everywhere find so difficult to affix, becomes for the young Bridge pupil a matter of simply spotting frequent and regular configurations.

"Bridge spelling" actually grew out of Lanham's experiments, during the 1960s and '70s, with various methods of regularising English spelling. These included the international phonemic orthography (frequently used in dictionaries as a guide to pronunciation) and i.t.a., the "initial teaching alphabet", which uses a modified orthography to spell words largely as they are pronounced. None of these methods was found to be entirely satisfactory, mainly because of pupils' subsequent problems with traditional orthography. Lanham found, too, that i.t.a.

is only partly phonemic and there are many phonemic inconsistencies in its spelling. In particular, the weakly stressed syllables... largely retain the normal spelling. (Lanham, 1967:34)

The beauty of "Bridge spelling", on the other hand, is that it achieves phonetic regularity while retaining traditional orthography. When the diacritical marks are phased out (as happens by the end of Bridge) the pupil is left with unmodified traditional orthography, with which he is now entirely familiar.

Rodseth (1987:35) describes the importance of "Bridge spelling" as follows:

- *It draws attention to the need for a phonic approach to reading-teaching, since [it] contains the capacity to help pupils develop phonic skills.*
- *It develops a system for assisting pupils as well as teachers in the difficult task of learning English pronunciation, something which affects both English reading and writing.*
- *It attends to the importance of deliberately effecting the transference of reading skills: Where there are close phonemic correspondences between English and Bantu in terms of phonemic norms which allow for transfer without interference in the English phonemic system, a preference should be exercised in ['Bridge spelling'] for the letter representing the Bantu phoneme". (Lanham, 1967:47).*

So much for basic decoding skills. How does Bridge tackle the more complex problem of developing higher order skills?

The 1985 edition of the Bridge teachers' manual (Lanham, 1985:58-62) describes a number of pupil activities, built into the lesson plans, which are designed to promote comprehension through cognitive engagement with the text. Moving from lower to higher order skills, these are:

1. **Matching pictures and numbers;** e.g. Teacher says, "Look at picture number six. What is it?". Pupil responds: "It is a car/ leg/ dog/ arm."
2. **Matching letters and sounds;** e.g. "Show me /e/, show me /a/".
3. **Compare and contrast;** e.g. contrast /a/ in *cat* with /a/ in *cart*.
4. **Phonic families;** e.g. "Show me all the words with /e/ as in *hen*."
5. **Multiple choice;** pupils match a picture with a word or sentence, making a choice between three alternatives of which one is correct.
6. **Picture and sentence matching.**
7. **Yes or No picture drill;** pupils study a picture and then state whether each of a number of ensuing sentences about it is true or false.
8. **Picture writing drill;** children study a picture and then, in ensuing sentences, fill in missing words about the picture.
9. **Jumbled sentence drill;** pupils arrange jumbled words into a sentence to match a picture.
10. **Story reading;** children silently read a short, illustrated story by themselves and answer comprehension questions on it. They may then have to write captions for the pictures, mime the story or write a story of their own.

The Bridge kit also includes two games, the Crocodile and Monkey Games, in which two stories are illustrated on a set of cards. Pupils have to make use of logical inferencing cues to reconstruct the stories in their correct sequences. Distracters are included in the set of cards. In Bridge Plus One, there is a variety of jumbled sentence and story exercises.

Both Bridge and its follow-on course Bridge Plus One include in their materials sets of graded basal readers designed to be used as an incremental reading programme. In Bridge, it is a set of six "Little Bridge Readers" incorporating a total of ten short stories on six levels of difficulty. In Bridge Plus One a "Book Box" is provided, containing multiple copies of thirty-one stories graded into five levels of difficulty, each of which is colour-coded. The grading is by vocabulary, sentence patterns and ideas, and reflects Lanham's list of non-equivalences between English and African languages. By the end of the Book Box, a pupil should be able to cope with all the major constructs of English and therefore to slot into any existing reading scheme of an appropriate cognitive level, e.g. the Ladybird or Ginn series.

Both sets of readers are accompanied by comprehensive instructions for teachers. They include instructions on such exercises for the pupils as:

- Pre-reading exercises: 'What does the title of this story mean? What is this story going to be about? How do you know? What can you tell me about this place/ person/ topic? This word is important in the story; who knows what it means?'
- Predicting what might happen next in a story.
- Working out the meaning of unfamiliar words/ expressions.

Two particular techniques are recommended. In the first, called "Shared Book Reading", the teacher reads the story through once to a small group of pupils. She

then questions them about the story: 'Who were the characters? What did they do? Why? What happened then? How did it happen?' She then begins to read the story a second time, but this time the pupils take over and read short sections of it. At convenient breaks, the teacher asks further-comprehension questions and gets the children to attempt to work out the meanings of unfamiliar lexical and grammatical items.

The second method, "Broken Story Reading", is somewhat similar, except that the teacher does not read the entire story through for the pupils. Instead, after the customary pre-reading exercises, she reads only up to the first exciting point. Then she interrupts the reading with a prediction exercise, whereafter the pupils are sent away to complete the reading silently by themselves. As a post-reading exercise, they discuss in pairs the many differences between how it did end and how they thought it would end; they make a list of these differences and report them back to the teacher and other pairs.

What one sees in all this is a definite strategy for building interactive reading skills and habits in the pupils. It incorporates the five techniques which Carrell (1988) considers essential to the development of appropriate schemata for proper interpretation of a text (cited in Macdonald, 1990:62):

- i) Exposing a text bit-by-bit and asking the pupils to predict the contents of the next part.
- ii) Giving pupils only the first and last sentences of a paragraph and asking them to reconstruct what has been omitted.
- iii) Asking pupils to unscramble mixed paragraphs.
- iv) Asking pupils to unscramble two intermingled texts.
- v) Asking pupils to make contextual guesses in cloze tests.

The inclusion of silent reading periods is also significant. Macdonald (1990:66) cites research evidence of a strong relationship between the amount of silent

reading a pupil does and the pupil's reading achievement on a number of measures. She also endorses the idea of a classroom library corner (similar to that in Bridge and Bridge Plus One classes) where silent, individual reading can take place.

In terms of content, the readers in the Bridge series represent a mix of Afrocentric and Eurocentric stories, it being a belief of the Project that pupils should be given both a positive view of their own culture and a wider view of the world. There is also a fair balance between urban and rural milieus. In accordance with the Project's avowedly non-political stance, they are intended to be ideologically neutral, a feature which many Freireans would consider inherently undesirable (and unattainable) on the grounds that it weakens the motivational value of the stories. The Project's response as expressed by Lanham (1989:6-7) is:

Molteno Bridge courses have been created in adherence to the principle that the language of learning should not carry concealed messages which are not revealed as such to the child. Propaganda in any form is to be recognised for what it is. The reading material in Bridge depicts an open society without categorising or stereotyping of members, patently located in southern Africa. In Bridge Plus One the theme 'Heroes of Africa' is presented in the story of Corporal Job Maseko, a decorated hero of the Second World War, and King Moshoeshoe and his struggle in founding the Basotho nation.

Bridge in Standard Two takes first steps towards exposing the child to the language of persuasion in, for example, activities involving advertisements and newspaper reports. Honesty and deceit are consciously distinguished by the child in the words spoken by good and bad characters in the main reader in Bridge Plus Two. The Geography Fact Finder leads the child into judging facts as true or false - or neither - in terms of the information provided.

(The Bridge Plus Two texts referred to here are beyond the scope of this thesis.)

4.4 The Role of In-Service Training

The specific and rather sophisticated methodology, in reading and other aspects, which the Molteno Project's courses embody are new and challenging for most black primary school teachers. For this reason, the Project conducts in-service training courses, consisting of a total of nine days of instruction in two equal parts with a classroom monitoring visit or two in between, for teachers who wish to use its courses.

So central is this training seen to be to the success or failure of Molteno methods that course materials cannot be obtained without the accompanying training. In this stance, Molteno differs somewhat from other course purveyors, who in many cases do offer training in their courses but do not absolutely insist upon it. Regarding the Project's stance, Nuttall and Langan (in press:21) posit:

Taking into account the inappropriate and inadequate preparation that state pre-service teacher training provides, it is the Project's view that... the provision of effective in-service education remains an obligation for course developers and purveyors. In response to this situation as well as teachers' expressed needs, all of the Project's courses are accompanied by intensive, ongoing in-service teacher training in the use of its materials and the implementation of a learner-centred methodology. The training programs aim to provide teachers with a balance of theory and practice, with an overall emphasis on hands-on experience in order to prepare them to teach a particular course in their classrooms.

The Project believes that its position on training is supported by the Human Sciences Research Council's (Kroes & Walker, 1988) comparative evaluation of seven primary English courses then being used in DET schools, which states (p8) that

As [the Molteno English programme] is very sophisticated, there is a gap between its potential and its actual performance - a gap reducible by further and more specific in-service teacher training...

An assessment of the teacher support and training already supplied by the Molteno Project revealed it to be one of the best, if not the best, offered by a course purveyor.

In a similar vein, Cunningsworth (1990:12) relates his own exposure to the training courses:

I found the use of sound training methods of a practical nature, focusing on class management skills, the understanding and use of the techniques and procedures of Bridge, and a limited amount of theoretical background. The level was fairly basic - rightly so as it was appropriately pitched to meet the needs of the participating teachers. ... Feedback showed that they had benefited greatly from their attendance.

The emphasis which the HSRC report placed on training underpinned a decision taken by DET in 1989 to permit purveyors of primary English courses to undertake in-service teacher training as part of their provision to the department.

In considering the Molteno Project's reading programmes then, the research upon which this thesis is based in fact examines the programmes as they are implemented by teachers who have had some training in their use. This point will be taken up in the next chapter.

CHAPTER THREE

EVALUATING READING

1. EVALUATING READING

1.1 - A General Theory of Evaluation

Evaluating is something one does all the time. The motorist who checks his rear-view mirror, the cook who lifts the lid of the pot, the mother who glances in on her sleeping child - all are evaluating a situation with a view, if necessary, to taking action on it. Evaluation, then, is a natural, ongoing part of everyday life. But the more complex and structured an activity is, the more formal, organised and extrinsic must be the evaluation of it. A consciously learned skill like reading needs to be consciously evaluated. A formal system of instruction - such as a reading development programme - needs to be evaluated through an organised, methodical procedure.

At the centre of all evaluation is a principled search for information. Bhola (1993) divides information for evaluation into two categories:

- i) Descriptive information, i.e. information about the way things are
- ii) Evaluative information, i.e. comparisons and connections between elements of the system and others within or outside of it: "This is better than that", "This factor correlates with that one", "This situation represents a change from that which prevailed before".

He suggests that evaluators too often think that the only kind of information they need is evaluative. Taking a very humanistic position, Bhola argues that, on the

contrary, descriptive information is often more valuable than evaluative information because it has inherently motivating power: once people understand what the situation is, they naturally tend to think about what they can do to improve it. Evaluative information, on the other hand, is inherently threatening because it implies criticism, or at least the drawing of unfavourable comparisons, to one or other stakeholder in the system being evaluated. In evaluation, says Bhola, it is important to make the data useful to as many stakeholders as possible. This means that evaluation is really a process of information development.

The classic process of evaluation consists of three steps:

- Description
- Interpretation
- Judgement

Obviously, the first step is likely to be the most time-consuming, for it involves the gathering of data relevant to the purpose of the evaluation. This involves decisions about what sort of data is required and how, where, when and by whom it will be gathered. Thereafter, it must be organised into a coherent form for interpretation. Finally, decisions can be made about it.

A distinction is sometimes made between *quantitative* and *qualitative* evaluation. Simply stated, quantitative data is derived from the assigning of numbers - scores or other numerical values - whereas qualitative data is based on verbal or visual representations such as descriptions and labels (Bachman, 1990:19). There has always been a struggle for ascendancy between the two, but each has its advantages and disadvantages, according to the purpose of the research. Some researchers, viewed as 'purists', argue that qualitative and quantitative evaluation techniques are mutually incompatible because they are based on paradigms that take different views of the world and how to describe it. 'Pragmatic' researchers counter this by holding that all data collection procedures are legitimate for almost all research designs, but that some are merely more typical of one design than

others (Seliger & Shohamy, 1989:158).

Brown (1988:5) points out that statistical research - such as tests, surveys and experimental studies - offers five distinct advantages over other types of research:

- i) It is systematically structured with definite procedural rules.
- ii) It is based on a logical, step-by-step pattern.
- iii) It is based on tangible, quantifiable data.
- iv) It is easily replicable, in that it should be easy to repeat the procedures.
- v) It is reductive, in that it organises a plethora of data into recognisable patterns.

Nevertheless, in recent years the trend in educational evaluation has been away from such quantitative methods and towards qualitative methods because it is recognised that teaching and learning, like all human behaviour, cannot be objectively measured.

Of course, no evaluation is ever value-free. The evaluator inevitably has to make decisions about the purpose of the evaluation, what needs to be looked for, what is desirable in the system and what is not, what is acceptable evidence of its presence, how it will be collected, what resources can be devoted to the evaluation exercise, and so on. Since no evaluation can cover every aspect of the system, nor draw upon unlimited resources, every conclusion reached must be considered in some measure open to review. In Bhola's words (1993), what the evaluator will eventually produce is "warranted assertions", i.e. assertions which can be shown to be probably true in terms of the aims, methods and perspectives of the evaluator.

1.2 Evaluating a Reading Scheme as a Single Factor in an Education System

For the purposes of this research, the question needed to be asked whether, in the first place, it is worthwhile trying to evaluate the effect of a reading scheme on quality of education. A reading scheme is, after all, but one straw in a haystack of factors influencing the standard of the education system. Moreover, although language is indisputably central to learning, can it really be said that course-books so significantly affect teaching practice and learning outcomes that changes in the former may produce changes in the latter? While the answer to these questions may at first seem obviously to be in the affirmative, it is arguable that in a rural, developing context, such as that within which this research was conducted, so many variable factors are at work on teacher competence and pupils' performance that it might be pointless trying to isolate one - the prescribed reading scheme - and then evaluating it with a view to drawing conclusions on how to improve the overall standard of education.

However, research internationally suggests that textbooks greatly affect classroom processes and products. The importance of textbooks as a determinant of pupil performance, particularly in a developing context, is emphasized by Heyneman & Jamison (1980) in their study of the availability and use of textbooks in Ugandan schools. A subsequent study by Heyneman & Loxley (1983) across twenty-nine countries confirmed this finding. Schiefelbien *et al* (1983) conclude from research in primary and secondary schools in Chile that teaching materials contribute significantly to pupils' performance, though - and this seems paradoxical - not to teachers' competence. In one of the few pieces of research in this field conducted in an underdeveloped rural context, Armitage (1986) finds from a two-year longitudinal study of 4 900 Brazilian students that the quality of instructional materials was one of two factors which had a significant effect on pupils' achievement (the other was teacher competence). From a review of numerous studies on school-related factors which influence pupil's achievement, Fuller (1987) concludes that textbooks have a substantial effect on pupils' achievement. And Lockheed & Hanushek (1987) infer from a review of studies on the relative cost-

effectiveness of six different school inputs that investment in good textbooks is more cost-effective than teacher-training.

Amongst development agencies it is now a generally-accepted maxim that, in the field of education, in-service teacher-training and the provision of quality textbooks are usually, in terms of the results they produce, the most cost-effective inputs¹. Thus, an evaluation of the implementation of the Molteno Project's reading programme, which comprises course materials and concomitant in-service teacher-training, could yield information of practical value to educational planners and administrators as much as to the Project.

2. EVALUATING READING IN BLACK SCHOOLS: PRACTICE

The close link between ideas on teaching and testing has already been noted. As Macdonald (1990:3) observes:

Modes of teaching and testing have always been intimately connected.

This is as true in South African schools as anywhere else. Consequently, the generally low standard of reading pedagogy amongst teachers described in Chapter Two, Section 3 of this thesis would seem to bode ill for the standard of reading tests in black junior primary classrooms. Empirical research seems to indicate that this expectation is too often justified.

No comprehensive review of language testing practice in black primary schools has yet been published. However, occasional references in other research reports (such as Langan, 1990; Macdonald, 1990; Van Rooyen, 1990; Liddell *et al*, 1993) and

¹ The World Bank, for example, rates in-service teacher-training and provision of textbooks first and second on its list of cost-effective educational input priorities for developing countries.

this researcher's own observations of and discussions with teachers, suggest that in most classrooms the testing of pupils' reading ability is largely limited to two or three traditional techniques. The most common of these is a read-aloud test in which pupils are called upon individually to read aloud to the teacher a short excerpt from the prescribed basal reader and are then scored on general fluency and expression. Traditional comprehension tests are also used, in which the text may be any one deemed suitable by the teacher, who usually also devises the questions. Some teachers also use word-identification exercises, based on flashcards, as an early test of reading ability.

While there is merit in each of these activities, none can be regarded on its own as an accurate measure of reading ability. As noted already, reading aloud, especially in groups, can be done quite convincingly without any comprehension on the part of the reader. This would actually seem to be the norm in black junior-primary classes². The traditional comprehension test, too, has serious weaknesses as a measure of reading ability. As Urquhart (1990) points out, it is based on three principle assumptions, *viz*:

- i) the text contains all the information necessary to get the message;
- ii) the message is therefore absolutely definable and, if read correctly, will evoke the same response from all readers;
- iii) the tester, a good reader, knows what that message and response are and can thus evaluate how closely the testee has come to getting the message.

As we have seen, each of these assumptions is strongly challenged by modern research on reading, which suggests that:

² See, for example, the eyewitness reports on reading classes quoted in Chapter Two, Section 3.4 of this thesis.

- i) The writer, who may not have a clear message, includes in the text only such information as he thinks is necessary for the reader to get that message; the text is thus a trail of clues directing the reader towards a desired conclusion.
- ii) In reading the text, the reader invokes his own knowledge of the world in general and the topic in particular, which may or may not match very closely what the writer thought he had; at the end of the text, he may therefore not arrive at the point the writer hoped he would.
- iii) The tester, who has come to his own conclusions about the text, may be posing questions which really examine the extent to which the testee shares his view.

The last point is crucial to the failure of traditional reading tests in many black schools. As a rule, junior-primary teachers, *who are themselves seldom good readers*³, stand squarely between the pupils and the text. In the reading lesson, they emphasize the kind of chorusing described earlier. Evaluation of the pupils' reading ability is frequently based on their mimicry of the teacher's own reading. No response other than that modelled by the teacher is permitted. That way, the teacher is always on safe ground. The pupils, on the other hand, are *never* on safe ground. They quickly learn to "make sure" of every response. Consequently, they find it difficult to express an individual response on the rare occasions when they are called upon to do so. Every text needs to be mediated for them, every response verified by an outside figure of authority. What tests end up measuring is not the pupils' actual reading ability, but their ability to reflect what they think the teacher would make of that particular text. This researcher has observed that "test proficiency", as opposed to real comprehension, becomes more obvious in the higher standards where increased use is made of traditional comprehension tests.

³ c.f Chapter Two, Section 2.3 for evidence of this.

At the best of times, performance in a traditional comprehension test is open to interpretation. At least three factors other than the testee's reading ability may have been at work:

- i) The testee's **background knowledge** of the topic of the text, by which her deduction of information from textual clues may have been enormously augmented, leading to a higher "comprehension" score, or impeded, leading to a lower score.
- ii) The testee's **proficiency in the productive skills** of speaking and/or writing; if more developed than her reading skills, these would convey an impression of greater comprehension than she actually has, or than another testee who struggles to express himself despite an equal or greater comprehension of the text.
- iii) The testee's **ability, apart from any comprehension of the text, to make use of linguistic cues** such as discourse markers and key words to extract verbatim from the text passages that relate to the question, thereby creating an illusion of real comprehension.

Many of the standard texts and tasks of the black junior primary class are, in terms of the communicative criteria extracted from Morrow (1979 & 1981) and Weir (1990), unsuitable for both teaching and testing purposes. They are neither appropriate nor authentic. In particular, the following deficiencies are evident:

- i) The prescribed English texts contain language that the pupils have not yet learned. Lanham (1989) identifies numerous constructs and textual properties, common to basic English readers, which turn the young black reader's encounter with the text into a struggle for meaning. When, as is presently the case, content subject textbooks are introduced in the fifth year of school, the problem is compounded. These texts are so far beyond the pupils' linguistic horizons as to be

completely inaccessible to them. Langan (1990:218) is unequivocal about the consequences:

Pupils are unable to read the textbooks intended for them ... [because] the language of the textbooks is too difficult.

- ii) Many of the texts deal with things outside the pupils' experience. In the case of early English readers, a shortage of locally-written texts has led to the frequent, unsupported use of British and American readers. This researcher has seen second-year pupils in a desert region reading from a first-language British reader such sentences as, "The Queen lives in Windsor castle" and "Boats depart from Dover up the channel." The fact that such texts are typically introduced without preparation of the children's conceptual framework makes them all the more incomprehensible.
- iii) The tasks are generally limited to questions testing factual recall by means of one-word answers. The limitations of this kind of exercise and the inhibiting effect which it has on pupils' reading development have been well documented by Van Rooyen (1990). In essence, she writes (1990:100),

the classroom culture of one-word answers to questions testing recall of [facts] does not provide exercise in the use and development of process skills.

Referring to the research done in black primary schools as part of the Threshold Project, Macdonald (1990:9) reports that

our observation suggests that discrete point testing is rampant.

Serious practical and theoretical problems with discrete point testing are described in Section 4.2 following. In context, Macdonald seems to imply, though she does not actually say, that the testing she and her team observed was of an uninformed and arbitrary nature.

What soon becomes evident to any researcher is that teachers' markbooks are no sure guide to their pupils' linguistic performance. While this may seem a rather harsh and sweeping criticism of teachers who are generally trying very hard to help their pupils, it is really just another facet of the poor standard of language teaching in schools described in Chapter 2 and springs from the same causative factors as those to which that standard is ascribed.

On several occasions during the course of this research, the researcher was permitted by teachers to examine their markbooks. Repeatedly, huge differences were found between the percentages for reading awarded by teachers to pupils and the pupils' results both in the tests devised specifically for this research and in other standardised tests. Nor was there usually any correlation between the rank ordering of pupils on class tests and on the standardized tests. Significantly, though, at the semi-private mine schools included in the research, with their stronger school-management systems and apparently more-competent teachers, the correlation between teachers' markbooks and pupils' test scores was much closer. When, on one occasion, the researcher felt free to query this discrepancy with the principal of a progressive rural school, she replied that in her experience teachers often gave marks to a pupil according to how much they liked that child.

Liddell *et al* (1993:24-5) report on their own, similar experiences and the conclusions to which these led them:

We hypothesise that school failure rates in Grade One are highly arbitrary affairs, decided by teachers and principals according to

criteria that may have little bearing on a child's actual ability. We are able to substantiate this hypothesis with a number of examples that we have encountered in our preliminary inquiry into why teachers fail certain children...

We are further supported in this hypothesis by the recent work of Oosthuysen (1990) in which she compared teacher ratings of children who had attended preschool with those who had not. Teachers rated preschool attenders as being considerably brighter and more competent. However, standardized measures of their developmental levels revealed the opposite - the home-reared children showed a trend towards greater competence...

Children [are] being kept behind for arbitrary or irrelevant reasons.

This is clearly a sensitive issue and the purpose in raising it here is not to cast aspersions on teachers' ethics or dedication to duty. From personal observation on innumerable occasions over the past five years, this researcher is convinced that most teachers consistently do what they think is right and in the best interests of their pupils. Yet the evidence of mistaken assessments is disquieting, implying as it does a very serious weakness in a large part of the public school system⁴.

⁴ Langan (1990:160-1) records that he found a similar problem in the testing of content subjects at Std 3 level. He reproduces a page from a history textbook, a facsimile of a teacher's blackboard notes and a pupil's test paper to illustrate how verbatim recall of the teacher's notes, complete with factual and linguistic errors, was all that was required of pupils to pass the test. In this example of pupils' test papers, which Langan claims was typical of those he encountered in his research, the award of marks appears to be completely arbitrary - in this case 54 out of 70 for six imperfect sentences making unconnected propositions about a famous historical figure. In a personal communication to this researcher (5 May 1994), Langan recalled that neither he nor other teachers to whom he showed such examples in a subsequent workshop were able to see any basis on which marks had been awarded to the pupils.

3. EVALUATION IN THE MOLTEÑO PROJECT

Ongoing evaluation is an integral part of the Molteno Project's activities. This is most evident in the process of developing materials, which comprises a cycle of initial writing, trialling, evaluation and revision. Nuttall and Langhan (1994: 22) describe the trialling and evaluation phase as being

the implementation of a particular language course in classrooms on a meaningfully representative scale for a minimum of one school year,... in order to trial and evaluate the materials in real classroom situations...

Once a course has been put into published form and adopted in schools, it remains subject to periodic review and revision. Say Nuttall and Langhan (1994:22):

The classroom-based monitoring... facilitates the continuous gathering of feedback on the effectiveness and appropriacy of the course materials, which together with recent theoretical developments in the field enables the Project to determine whether further revision of a course or parts thereof is necessary.

Periodically, the Project's activities are also subject to evaluation by external consultants, usually engaged by donors. In such cases, the donors themselves have selected the evaluator(s) from overseas academic institutions in order to ensure their objectivity. A number of the evaluators have produced well-informed and reflective reports covering both theoretical and practical aspects of the Project's courses and training. Examples of these are Collett (1980), Peacock (1984 & 1992), Cunningsworth (1990) and Rea-Dickins (1994). As already noted, Molteno courses were also part of the HSRC's 1987-89 evaluation of junior primary English courses in DET schools. All these evaluations give approbation to Molteno courses. In his evaluation, Collett (1980) considered both the materials of the two Molteno

courses then in use (Breakthrough and Bridge) and the manner in which they were actually being used in the schools. In his report, he offers the opinion that

Breakthrough effectively counteracts all the old negative assumptions of black education: over-emphasis on the teacher's role, rote learning, mass chanting, and reading without understanding... (p7)

Of Bridge as a follow-on to Breakthrough, Collet observes:

For the foundation year of a long English course, however, Bridge is a good basic tool, of great potential. The phonic system based on diacritical marks, stressing the often neglected regularity of English, is excellent and leads to controlled and confident progress in reading competence: the 'information-gap' approach whereby the pupil matches picture and sentence provides interest and cognitive involvement, and the writing tasks consolidate and extend language skills. My visits to schools confirm that, where the Teacher's Manual is followed, the aims and objectives are realistic, and, broadly, are being achieved. All the principals, teachers and educationalists consulted agreed that it was superior to alternative courses, in terms of the actual learning that took place, and the much shorter time taken. (p8)

In the HSRC evaluation of primary EFL courses in black schools, Bridge to English was assessed along with seven other courses. In the first phase the courses were evaluated by a panel of experts, each specialist evaluating aspects of the material close to his or her area of expertise. The second phase comprised empirical, classroom-based research in which the researchers used largely qualitative methods, such as classroom observation and structured interviews with teachers, to assess each course in practice. At the request of the DET (which commissioned the research) a testing component was also included in the research procedures.

In the Phase 1 report (Kroes, 1987), Bridge receives some criticism for the standard of presentation and finish of its materials but is generally praised for its solid basis in the world of the child, its strong theoretical underpinnings - particularly in terms of communicative language teaching - and its innovative use of learning-by-discovery activities to encourage initiative and independent learning on the part of the pupils. The language-across-the-curriculum components of the course receive especially favourable mention, as does the teaching of higher-order reading skills.

In the Phase 2 report (Kroes & Walker, 1988b) Bridge is repeatedly scored above its competitors on the various "aspects", or clusters of related criteria, on the evaluation schedules. Out of ten such clusters, it was rated the best course in terms of:

- the skills and abilities which it develops in pupils
- the extent to which it makes learning opportunities available to pupils
- the appropriacy and relevance of the materials to teachers and pupils
- the extent to which the materials affectively engage pupils
- the sensitivity of the materials to the changing needs of pupils and teachers
- redressing the current imbalance in language classes of product over process
- encouragement of communicative language teaching

In their report on the testing component in Phase 2, Kroes & Walker (1988b:107) admit that numerous practical and theoretical problems (including the omission of Bridge classes from the testing exercise) made this a largely-unsuccessful endeavour:

These test results are true of the classrooms from which they were obtained; they were not derived from representative samples of the courses... and may not legitimately be generalised to any course qua course.

Also, the variables in the classrooms of the various courses were not controlled (indeed, are not controllable), and therefore high or low scores (as the case may be) may be attributable to variable(s) other than the courses in use.

After a final triangulation process, Bridge was ranked first amongst the five surviving courses (Kroes & Walker, 1988b:140).

Taking both theoretical and empirical data into account, Kroes & Walker (1988:8) conclude that:

On the evidence, Bridge is without doubt the best of the courses evaluated. So, for example, on the observation schedule it was ranked first on seven of the ten aspects and on 25 out of 37 items. Its greatest strengths are its basis in sound language teaching theory, its relatively low cost, and the productive classroom processes it issues in.

In 1990 Cunningsworth was engaged by the Overseas Development Administration, a major sponsor of the Molteno Project's activities, to evaluate the impact of the Project on black schools. Like Collett, he tackled this assignment by looking at both theoretical issues (the content of the Bridge course materials) and practicalities (the implementation of the courses in schools). Though he finds fault with the standard of technical editing in the Bridge course materials, he praises its sound theoretical basis, design and methodological orientation (Cunningsworth, 1990):

The methodology and design informing the material is characterised by a pupil-centred view of teaching and learning, an integrated approach to the acquisition of language skills with strong emphasis on reading, a broadly communicative approach leading to the use of

English in real-life interaction and a cross-curricular content which anticipates the cognitive, conceptual and vocabulary needs which the child will encounter in the fifth year of school. (p5) ...

*Overall, the material is well in advance of anything currently available in South Africa, and, with its firm mother-tongue literacy base in **Breakthrough** and its teacher-training programmes, it undoubtedly provides the best package to meet the increasing needs of black schools. (p8)...*

*To conclude, whilst the **Bridge** materials are not entirely beyond criticism, they are of a far higher standard than any of their competitors, and are also conceptually superior, with their emphasis on pupil-centred, active learning and with much weight being given to the development of conceptual and cognitive processes in the context of a cross-curricular approach. (p9)*

Macdonald & Burroughs (1991:28), arguing the need for children's early literacy experiences to be in the mother tongue, note that

*Informal evidence suggests that a year on a programme such as **Breakthrough to Literacy** (in Xhosa, Zulu, etc.) could bring children to a state of readiness for starting English literacy.*

Macdonald (1990c:43-52) expands upon this by referring to the Threshold Project's research in Bophuthatswana schools where **Breakthrough** was being implemented as part of the Primary Education Upgrade Programme (PEUP):

***Breakthrough** was used in all the Grade 1 classes that we observed, and this seems to be a system that works very productively. (p52)*

The Threshold researchers found a considerable range of proficiency amongst teachers in the use of Breakthrough, differences between schools in the presence and state of the items in the kit, and numerous other variations in the manner and extent to which Breakthrough was actually being implemented. On the whole, though, their conclusion was that Breakthrough has had a powerful and positive effect on teaching and learning in Grade 1. Macdonald (1990c:48) writes:

One of the most marked impacts of Breakthrough has been on the fundamental orientation of the teacher. It is probably true to say that the cornerstone of the building of a child-centred curriculum is in the introduction of Breakthrough. When the teacher learns to use Breakthrough, she is given the basic tools of child-centred groupwork. It is difficult to conceive that the PEUP could have made the innovations that it has, without building on Breakthrough.

Peacock's 1984 and 1992 evaluations differ from all others in that he looks specifically at the implementation of Breakthrough in Grade 1 classes in Botswana. Breakthrough was first trialled in nineteen Botswana schools from 1983 to 1984, at the end of which Peacock conducted a UNESCO-funded evaluation. On the basis of his very favourable report the Botswana Ministry of Education decided to implement Breakthrough in all Grade 1 classes in the country, with December 1988 as the target date for completion of the exercise. Botswana Ministry of Education statistics reveal that, by 1993, Breakthrough was being used in 2 100 classes in 672 schools (about 95% of the primary schools) in the country. Requisite teacher-training is provided entirely by local personnel. Thus, Botswana is a good example of the implementation of a Molteno course, in very far-flung rural schools, through local ownership. In 1992 Peacock conducted a follow-up evaluation, funded this time by ODA. Peacock reports on the productive classroom processes which Breakthrough engenders and the powerful influence it exerts on the teacher towards general methodological change. Quoting the supervisor of a group of mission schools near Serowe, Peacock (1992:4) asserts that

By 1991, the Breakthrough approach had become accepted as

"a total approach... based on the language experience of each child. It is a philosophy of teaching as well as a methodology... which, if properly implemented, permeates the whole school. Thus, we can no longer talk about 'Breakthrough classes' but about 'Breakthrough schools'.

From his own observations, Peacock adds that

This pride in new skills was a great contrast to observations in non-Breakthrough classrooms. Children never looked bored or uncertain; materials were well used and looked after; and quiet areas for reading had been established. Thus, many aspects of the operation of Breakthrough in the classroom were highly positive (Peacock: 1984). Neumann (1990) confirmed these observations in his study of teachers in Ngamiland. He stressed that children were reading quickly and fluently; work was based on what they knew, and used their own ideas; and it made the teachers into hard workers. (p5).

Some other interesting and perhaps informative data comes from Rambau's 1992 evaluation of EFL classes in the Primary Education Upgrading Programme (PEUP) in Venda. This programme, which attempted to replicate the one of which Macdonald's Threshold Project team spoke so highly in Bophuthatswana, prescribes the Molteno Project's Bridge to English series for all English classes in participating schools - a total of about 800 classes at the end of 1991. According to her report, Rambau devised an English test consisting of three parts - essay-writing, an item on grammar and a comprehension passage. The essay question comprised three sub-items. Firstly, pupils were required to write a short imaginative essay in response to a stimulus picture. They then had to draw a picture of their own and write about that. Finally, they had to write a short essay on a topic chosen from

a list of three. The second question comprised fairly traditional grammar items, mainly on prepositions and nouns. The final question was a traditional comprehension test. This whole test was administered to an unspecified number of classes in nine schools within a single circuit: PEUP Std 1 and Std 2 classes, and non-PEUP Std 1, Std 2 and Std 3 classes. Rambau claims that the significant methodological difference between PEUP and non-PEUP classes was that the former used the Bridge series while the latter did not. This being so, the test results may indicate something of the effect which Molteno English courses have had on the pupils. Rambau (1992:43-4) reports:

When comparing PEUP and non-PEUP scores I found that pupils in the Primary Education Upgrading Programme scored better marks than those in ordinary schools. The PEUP scores range between 1-35 [%] and the non-PEUP scores range between 0-9 [%].

A few slow learners in PEUP classes and most of the learners in non-PEUP classes mix English and Afrikaans, [e.g.] "is" or "was" or "Moeder is wearing a rok."

Question one was easy for the PEUP pupils, they understood the instructions and could write correct, meaningful sentences. In the non-PEUP schools only one child managed to write a few sentences about "My cat". The rest could hardly write or copy sentences. One could hardly read what they tried to write. The worst child in the PEUP class can at least copy what is written even if the answer is wrong...

The Std 1 and 2s in the PEUP [schools] score better than the Std 3 pupils in non-PEUP schools. The scores in the PEUP classes range between 1-36 and in Std 2 non-PEUP classes the scores range between 1-19...

All the Std 3 [non-PEUP] pupils wrote the same essay which they memorised, that is, "My School". Even the slow learners tried to reproduce the sentences. The sequence of the sentences is the same. they could not answer the comprehension test; instead they re-copied the story.

Since Rambau does not state whether or to what extent technical issues such as reliability, validity and the selection of representative samples of testees were taken into account, data gleaned from the test cannot really be considered conclusive of anything. Nevertheless, it has at least anecdotal value and corresponds with a growing trove of reports from a variety of sources which together suggest that Molteno courses engender considerable success in learning.

The most recent external evaluation is, for the purposes of this research, also the most interesting and relevant. In January-February 1994, Dr Pauline Rea-Dickins (formerly of Thames Valley University, now of the University of Warwick, UK) was engaged by Britain's Overseas Development Administration to evaluate the Kangwane Primary Language Project (KPLP), which ODA had funded. KPLP entailed the implementation between 1989 and 1993 of the Molteno Project's language courses in half the junior primary schools in Kangwane. To do this Rea-Dickins examined classes in the same territory, sometimes the same schools, as did the testing research reported on herein. Thus, in a sense, the Rea-Dickins report is the qualitative flesh around the skeleton of quantitative data summarised in this thesis.

Rea-Dickins collected data from 47 classes (33 in Molteno schools and 14 in non-Molteno schools) out of a total of 126 schools in the region. Visits to schools were conducted over a period of four days by a team of nine evaluators, including Rea-Dickins herself. An average of about 35 minutes was spent observing each class. Classroom evaluation was based on an observation schedule which directed attention to:

- classroom organisation

- pupil involvement in lessons through oral and written work
- pupils' activities after completing set work
- display of work in classrooms
- methods of correction used by teachers
- teacher and pupil activities in classroom
- school context (size of class, classroom resources and physical environment)

Under these headings, Rea-Dickins (1994:38-51) reports that:

- In 85% of Molteno classes, pupils were organised in groups; only 17,5% of non-Molteno classes were organised into groups. The rest sat in rows or simply on the floor.
- In terms of oral work, there was a qualitative difference between Molteno and non-Molteno classes. For example, chorusing was observed in only 15% of Molteno classes but in 93% of non-Molteno classes. Pair and group work, pupil demonstrations, pupils' own use of language and pupils playing language games were observed in significant percentages of Molteno classes but not at all in any non-Molteno classes.
- There were differences, too, in the nature of the pupils' written work, with 27% of Molteno pupils engaging in non-traditional tasks (such as drawing, outlining and making notes) rather than traditional tasks (such as dictation and copying from books or blackboard), as opposed to only 14% of non-Molteno pupils.
- When finished with set work in class, 63% of Molteno pupils were observed to read, mark their own work or engage in other constructive, lesson-related work; none of the non-Molteno pupils was observed to do so.

- Displays of teaching aids or pupils' work were found in every Molteno classroom but in only one non-Molteno classroom.
- A wide variety of error-treatment procedures was observed in both Molteno and non-Molteno classes, but in Molteno classes a greater variety of both traditional and other procedures was observed (Traditional: four in Molteno as opposed to two in non-Molteno classes. Other: seven in Molteno as opposed to one in non-Molteno). The following methods were observed only in Molteno classes: teacher indicates location of error, pupils exchange books, pupils correct own errors, teacher corrects answers individually in teaching corner.
- There was considerable evidence of a qualitative difference between Molteno and non-Molteno classes in the roles of teachers and pupils. Examples are: a predominance of teacher-talk was reported from only 12% of Molteno classes, compared with 28,5% of non-Molteno classes; 'chorusing' was observed as the most frequent teacher activity in just 6% of Molteno as opposed to 50% of non-Molteno classes; instances of teachers encouraging and praising pupils were reported from 24% of Molteno classes, while no such instances were seen in non-Molteno classes; teachers were observed to use mixed media in 12% of Molteno classes but no non-Molteno classes.
- Physical conditions were generally better in Molteno than in non-Molteno schools, the former holding fewer classes outside, and having lower teacher-pupil ratios and better-resourced classrooms. Unfortunately, Rea-Dickins does not state whether or to what extent the better resources had been generated by the teachers themselves as a result of the Molteno Project training.

In summary, says Rea-Dickins (1994):

the evidence collected through the systematic classroom observations lends strong support for the view that the KPLP has had an influence on (a) teacher performance, (b) learner behaviour, and (c) classroom contexts. Although there is still clearly room for improvement in Molteno classes (e.g. with group, pair work, error treatment), the impact of KPLP described above is to be seen as a positive one... (p51)

Her conclusion is that

There are demonstrable changes in most of the KPLP classes visited with, for example, enhanced pupil participation in class, linked with pupil achievement in English, greater teacher competence and classroom management skills. (p104)

While all these evaluations are very flattering to the Molteno Project and its courses, they are not really conclusive. For one thing, all are open to the criticism that they are based on fairly small and perhaps unrepresentative samples of classrooms, and/or insufficient time spent in those classrooms by trained observers.

Macdonald's Threshold team were not looking specifically at Molteno courses, so their data is incidental. The reliability and validity of Rambau's test-based study are not known. Peacock, Cunningsworth and Rea-Dickins were all severely constrained by the short period of time in which they had to conduct their research (three weeks in each case).

There is another problem with the Rea-Dickins evaluation. While the research design was in many ways exceptionally systematic and thorough, it is open to criticism on one important point - namely, the source of the classroom observation data on which it is largely based. It appears from her report (1994:31) that Rea-

Dickins herself visited only 12 of the 56 schools observed. Most of the data, then, was gathered, not by Rea-Dickins herself, but by the three Molteno Project staff members and four KPLP monitors whom she used as fieldworkers - that is, by the very implementers of the KPLP. It may be argued that the use of interested parties is unacceptable in a qualitative evaluation of this type, where much depends upon the subjective judgments of the observer. Rea-Dickins (1994:31) notes that

In retrospect, it would have been advantageous to have had non-Molteno data collectors... In any further evaluation, I would recommend controlling this design characteristic.

In view of these deficiencies, the Molteno project decided to undertake an evaluation programme of its own. The first subject of evaluation would be the Project's reading programme, a decision which reflected the centrality of reading to the Project's courses. In an attempt to fill a significant gap in the evaluations to date, quantitative techniques would be used. (The reasons behind this decision are described in more detail in Section 5.1 of this chapter: **A Need for Quantitative Data.**) Thus, the Project turned to standardized reading tests as a possible research instrument.

4. THEORY OF TESTING

4.1 General Theory

Baker (1989:3-6) points out that any test is:

- a way of arriving at a meaningful decision.
- a substitute for a more complete procedure.

This being so, test-writers need to decide early who they are going to test, on

what, to what end, and how. They will then be in a position to construct an appropriate test.

Since, as Baker says, a test is a substitute for a more complete procedure, all tests are based upon samples of the testees' performances. Carroll (1968:46) actually defines a psychological or educational test as being

a procedure designed to elicit certain behaviour from which one can make inferences about certain characteristics of an individual.

Bachman (1990:21) qualifies this by pointing out that not *any* sample of language use is sufficient basis for making the required inferences about a particular ability. Therefore, different tests are required. Theories of how tests should be constructed have marched in step with those of language teaching in general, and a brief historical review is informative.

4.2 History of Testing

While language testing is as old as language teaching, its modes and underlying theories have been subject to dramatic change. Spolsky (1978) divides the history of language testing into three eras:

- i) Pre-scientific: prior to the 1950s;
- ii) Psychometric-structuralist: 1950s to mid-1960s;
- iii) Integrative-sociolinguistic: late-1960s onwards; this movement developed into the proficiency-based or communicative testing school.

In the first of these eras, tests typically consisted almost entirely of grammar translation and comprehension exercises in the classic school mold. Since such

tests were simply extensions of what was happening in the language classroom, questions of validity and reliability did not arise: each teacher was sure that her tests demanded of her pupils the same type and level of performance as classroom exercises did. Pupils who did well in one did well in the other. External tests, such as those for university entrance, were largely based on the same syllabuses and reflected the same essential views of language and testing. Clarke (1983:431) notes that:

Testing utilized during this period would obviously not for the most part have served to measure validly a student's ability to make use of language as a means of functional communication in real-life situations outside the classroom setting.

There was also a strong assumption that anyone competent to teach language was also competent to test it (Macdonald, 1990:3).

With the emergence during the 1960s of new theories of second language *teaching* (see Chapter 2, section 1), approaches to language *testing* also began to change. Lado (1961) paved the way for the first major departure from traditional testing practice with his work on contrastive analysis (Macdonald, 1990:3). Lado hypothesized that, by looking at the dissimilarities between the target language and the mother tongue, one can predict difficulties likely to be experienced by the learners. The obvious implication for testers was that, if teaching should concentrate on areas of difficulty, then so should testing. Testers sought to determine the learners' level of general proficiency by establishing what progress they had made with the things most difficult to master. There is a certain natural logic to this. Just as the speed of a marching column is determined by its slowest member, and the strength of a chain by its weakest link, so progress in learning a language may be directly related to the degree of mastery of its difficult aspects. Thus, the measure of progress in those difficult areas may also serve as an indicator of baseline competence. So, writes Lado (1961:20):

We will attempt to test the learning problems on the grounds that knowing the problems is knowing the language. We say specifically that testing the problems is testing the language.

Such focus on particular aspects of language led to the emergence of discrete-point tests (a term invented by Carroll in 1961), in which each item was meant to test a single element of the language, such as the discrimination of phonemes, production or control of specified lexical items or the perception of meaning from syntax (Macdonald, 1990:4).

This approach was far more focused and scientific than the grammar-translation tests of an earlier era. It explicitly attempted to measure the testee's progress against specific, pre-determinable criteria of linguistic competence. As such, it appealed particularly to psychometrists who valued the degree of objectivity and specificity which it brought to a field previously characterised by subjective judgments. The HSRC's Initial Evaluation Tests for Stds 2, 3 and 4 in black schools are good examples of discrete point tests still in use today. They comprise sets of items grouped according to the area of language which they are intended to measure: spelling, language usage, vocabulary, reading comprehension and so on. Since the tests are primarily meant for pupils in DET schools, the items reflect the appropriate DET syllabus. The texts, tasks, vocabulary and syntactic structures incorporated in each test are those of the syllabus for that level. According to the tests' authors, this will

provide an objective, valid and reliable measurement of a Standard 2, 3 or 4 pupil's achievement in English at the beginning of the year and determine how successfully the pupil has mastered the subject in the Junior Primary Phase.⁵

⁵ Quoted from HSRC Test Catalogue: Educational Assessment Tests, 1993, p36. Published by the Division for Educational and Psychological Test Development, HSRC, Pretoria.

To the extent that the tests do so, they could serve as a useful instrument for placement and diagnostic purposes.

However, this psychometric-structuralist approach soon showed its limitations. For one thing, as Clarke (1983:432) points out:

By its very nature, the discrete point, one-element-per-item testing procedure was not capable of measuring the student's ability to comprehend or produce, on a holistic basis, a larger and more natural corpus of language material than that represented by individual-element test questions.

Furthermore, Clarke (1983:432) says:

Contemporary linguistic research [in the 1970s] held that the use of language for real-life communication involved a creative act in which the whole of the communicative event was considerably greater than the sum of the linguistic elements. As a result, the adequacy or effectiveness of the communication would not be adequately assessed through individual evaluation of its component parts.

This is the point which Rea (now Rea-Dickins) makes so strongly (1978:51):

Although we would agree that language is a complex behaviour and that we would generally accept a definition of overall language proficiency as the ability to function in a natural language situation, we still insist on, or let others impose on us, testing measures which assess language as an abstract array of discrete items, to be manipulated only in a mechanistic way. Such tests yield artificial, sterile and irrelevant types of items which have no relationship to the use of language in real life situations.

An equally definite statement comes from Oller, an early critic of discrete point testing, who contends (1979:212; original emphasis) that:

Discrete point analysis necessarily breaks the elements of language apart and tries to teach them (or test them) separately with little or no attention to the way those elements interact in a larger context of communication. What makes it ineffective as a basis for language teaching or testing is that crucial properties of language are lost when its elements are separated. The fact is that in any system where the parts interact to produce properties and qualities that do not exist in the part separately, the whole is greater than the sum of its parts.

He is supported by Morrow, who contends that discrete point testing -- "atomistic" testing is his term - leads to test items which are "exceedingly trivial in nature" (1979:144). The reason for this is the failure of the atomistic approach to accommodate the very essence of language - namely, communication. Morrow (1979:145) writes:

It seems fairly clear that a vital stage is missing from an atomistic analysis, viz. the ability to synthesize. Knowledge of the elements of a language in fact counts for nothing unless the user is able to combine them in new and appropriate ways to meet the linguistic demand of the situation in which he wishes to use the language. Driving a car is a skill of a quite different order from that of performing in isolation the various movements of throttle, brake, clutch, gears and steering wheel.

Another criticism of discrete point testing is that it tends to make language assessment the preserve of "experts" - psychometrists or linguists with statistical training - who alone are deemed able to devise and administer standardized tests. Pupils can only be measured against standards set by outsiders, by instruments

designed by outsiders. In South Africa, this paradigm can be discerned in, for example, the HSRC's practice of classifying its educational assessment tests into two categories: those which can be only be administered by a registered psychologist and those which can be administered by a registered teacher; neither category can be administered by any other person.

The discrete-point approach to testing, argues Macdonald (1990:4), has had a disempowering effect on teachers who come to see themselves as inadequate to the task of assessing the efficacy of their own teaching, and rely instead on the expertise of external technicians. Unfortunately, this expertise is not often available to teachers, especially in rural schools and communities. Bhola (1993) strongly criticises the "technicist" view of evaluation on these grounds. He argues that, with professionalization of evaluation has come a process of mystification, exemplified by the spread of arcane jargon and the disempowerment of teachers. Contrary to this, he contends that a person who has been trusted to manage, to lead or to teach can surely be trusted to evaluate.

Oller (1979) was one of first to propose "integrative tests" (another Carrollian term) in place of discrete-point tests. In essence, he argues that language proficiency is indivisible and that tests differ only in the degree to which they measure this unitary competence. Baker (1989:67) illustrates the unitary competence hypothesis with the attractive metaphor of an underground river which can be sampled at any point without appreciable variation in its composition. The concept of unitary language competence seemed to explain the phenomenon - embarrassing to psychometrists and other discrete point testers - of high correlations between scores on tests which ostensibly measured different elements of language competence.

The cloze procedure, originally devised by Taylor in 1953, has proved to be an enduring example of an integrative test aimed at assessing integrated reading proficiency. The cloze test is based on the Gestalt theory of 'closure', that is, an assumed subconscious desire to close gaps in patterns. Thus, when confronted by

a passage from which every n th word (usually every fifth or seventh) has been deleted, testees must draw upon all the available contextual clues and the full spectrum of their knowledge of language (including syntax, discourse, underlying propositions, *etc.*) to find appropriate words for the gaps. Depending on the nature of the text, the testees' assumed level of competence and the tester's objectives in testing, the tester may require either the exact answer or an acceptable substitute. Since performance on cloze tests has been shown to correlate highly with other standardized tests of listening, speaking and writing (Heaton, 1988:17; Macdonald, 1990:5), cloze tests have become a favoured means of assessing general language competence. Cohen (1980) argues that successful performance on cloze tests requires three types of knowledge: linguistic knowledge, textual knowledge and world knowledge; thus, they may be regarded as truly integrative language tests.

Dictation is another popular type of integrative test. Though it may appear at first to test only listening comprehension, more careful analysis suggests that it has a complex nature, involving auditory discrimination, auditory memory, spelling, the recognition of sound units, knowledge of lexical and grammatical patterns, and overall textual comprehension (Heaton, 1988:17). Whether for this reason or, more likely, because it is easy to devise and administer, the dictation test has become a standard procedure amongst language teachers the world over.

Integrative testers were cheered when high correlations were demonstrated between scores on dictation and cloze tests, which share neither channel (aural as against visual) nor direction (receptive as opposed to productive) (Baker 1989:66). This had been predicted by the unitary competence hypothesis. But that hypothesis - and with it integrative testing - was soon called into question. No matter how consistent the results from different proficiency tests, there was no guarantee that other components of the testees' language competence were not being overlooked. In the analogy of the underground river: finding the same percentages of certain minerals in every sample does not necessarily mean that they are all from the same spring.

The debate between proponents and opponents of the unitary competence hypothesis has been long and exceedingly technical, with both sides drawing much of their evidence from differing interpretations of what test scores actually prove. In a sense, this argument has never been fully resolved, since language tests are bound for practical reasons to be based on two other assumptions, highlighted by Bachman (1990:11), that tend to complicate the issue. The first of these is that test scores are *unidimensional*, that is, the items in a test all measure the same, single ability. This is not the same as the unitary competence hypothesis, which posits that *there is only one ability to test*, but it is sufficiently close to make the interpretation of results in terms of one theory or the other rather subjective. The second assumption is that test scores are *locally independent*, which is to say that a testee's response to a particular test item does not depend upon her response to other items of equal difficulty. It is conceivable, though, that testees may carry over the cognitive and linguistic tools they have used from one item to another without pausing to consider what other resources they have to draw upon. Were this to happen, the test would produce a more regular - and probably less flattering - profile of their abilities than would otherwise have been the case⁶.

On balance, though, the weight of evidence seems to suggest that language proficiency is at least partially divisible, though there are strong common factors underlying scores on different kinds of language tests (Baker 1989:72).

Exponents of communicative language testing shift away from the debate on the nature of language competence, and focus instead on proficiency. They look to innovations in language teaching as a source of practical principles for test-design (Baker 1979:77). In a sense, they go farther than the integrative school in that they attempt to devise tests which not only call upon testees to use all the linguistic

⁶ The researcher has personal experience of this from the British JMB exam, an entry test for British universities. The reading component of this test is typically a kind of puzzle, based on arcane topics such as medieval armour or 18th Century canal-building techniques, in which all the information in the text must be correctly ordered before any of the questions can be answered. A mistake at the beginning of the process leads to cumulative errors in all that follows.

resources at their disposal, but also imitate as faithfully as possible the demands of language use in real-life.

As noted previously, communicative language teaching led to the development of qualitative techniques of evaluation, but it is argued by Morrow (1979), Moller (1981), Rea (1985), Hughes (1989), Weir (1990) and others that formal, quantitative communicative language tests can be devised. An essential element of such tests, says Morrow (1979:151-2), is that they are performance-based: in a reading test, for example, testees must be called upon to *do* something natural in response to the text as proof that they have understood it. Morrow (1979:149) asserts that tests must give

convincing proof of the candidate's ability to actually use the language, to translate the competence (or lack of it) which he is demonstrating into actual performance 'in ordinary situation', i.e., actually using the language to read, write, speak or listen in ways and contexts which correspond to real life.

To this, Weir (1990:10-22) adds that communicative tests must also display five other distinguishing features:

- i) **Skills and performance conditions must be defined as precisely as possible;** these indicate the extent to which each test task reflects the attributes of the real-life activity it is meant to replicate. Only if the correspondence between test task and real-life activity is relatively high can the tester use the test results to make assumptions about the testees' ability to use language in normal situations.
- ii) **For the same reason, the sample of communicative language ability represented by the test tasks must be as representative as possible.** The broader the range of language incorporated in the test tasks, the

more accurate will be the testees' results as a measure of their overall language proficiency. Though not unique to communicative tests, it is more critical to them than to, say, discrete-point tests in that the former specifically aim to assess the testees' ability to cope with the twists, turns and surprises which are so much a part of unpredictable, real-life communication.

- iii) **The purpose of the test must be clearly specified.** No single test is suited to all possible test scenarios. Different groups of testees and different target situations require different tests. To measure language proficiency in each situation, account needs to be taken of where, when, why and with whom communication is intended to occur. Again, this is a principle not unique to, but certainly most central to, communicative tests.
- iv) **Both texts and tasks must be authentic.** That is, the texts must be of a kind the intended testees would normally be called upon to read in real life and the tasks the sort of things they would normally do in the wake of reading such texts. Weir suggests that this is a major point of divergence from the integrative school: cloze and certain types of multiple choice tests must clearly be considered unauthentic if such activities only ever occur in tests.
- v) **Real-life time constraints must be observed.** This aspect of real-life is frequently ignored in non-communicative tests. Traditional comprehension tests, for example, often require testees to spend more time thinking about a text (such as a newspaper report) than would be justified in real life. Or again, it may permit the testees longer to respond to a stimulus (such as humour) than real life would allow: we either laugh at a joke straight away or not at all.

It is also important, in the case of communicative reading tests for very young learners, to extrapolate from these observations two related criteria which Morrow and Weir seem to imply without making absolutely explicit:

- vi) **The text must be within the cognitive range of the readers** - that is, it must at least begin at a point known to the readers and proceed from there by a series of small steps following on clearly and closely from one another.
- vii) **The text must use only language which the readers can be expected to understand**, either because they have been taught it or because they are frequently exposed to it in a learning situation. Young children cannot be expected, as adults might be, to discern hidden signs, or to extrapolate missing information from a general knowledge of the world.

Communicative tests seemed to offer much in terms of the aims of this research. In their construction, decisions had to be made about various technical aspects of testing.

4.3 Types of Tests

The classic theory of testing divides tests into four main types (Heaton, 1988:171):

- i) **Achievement/ attainment tests**, such as annual school examinations and many standardized tests, which examine testees' progress in terms of a corpus of knowledge which they are expected to have mastered. For achievement tests to be fair, the testees must have been taught the syllabus upon which they are to be tested, in the manner which the test reflects. Thus, a practical test such as a trade test is fair only if the testees' instruction involved practical activities.

- ii) Proficiency tests, such as school entrance examinations or driving tests, which measure the testees' proficiency in terms of tasks which they will be called upon to perform. Whereas achievement tests typically look back upon what should have been learned, proficiency tests look forward to what real life will in future require of the testees. Proficiency tests are properly derived from what is to come, regardless of the extent to which the testees have yet had exposure to it.
- iii) Aptitude tests, which attempt to assess the testees' inherent potential to cope with a particular course or task.
- iv) Diagnostic tests, which are aimed at identifying weaknesses in the testees' performances in a particular field with a view to informing corrective action. Though data from achievement and proficiency tests are frequently used for diagnostic purposes, proper diagnostic testing is a very specialised field.

This nomenclature obviously looks at tests in terms of their *purpose* and, as such, provides useful general labels. As described in Section 4.2 above, an historical view of language testing provides a different set of labels, derived from underlying *theories of language*. Baker (1989) propounds a third system of describing language tests, based on their *design*. He first distinguishes between tests which aim to evaluate the testee's language in terms of some future task for which it may be required, and those which do not. These he calls respectively **performance-referenced** and **system-referenced** tests. Next, he divides the questions themselves into two categories: **direct** questions (which simulate real-life language use) and **indirect** questions (which break the target knowledge or skill down into more easily testable components, none of which on its own constitutes whole language use.) Hence, Baker's system of describing and naming tests produces a "window" which looks like this:

Four Models of Tests:

	DIRECT	INDIRECT
PERFORMANCE - REFERENCED	Communicative testing; simulations; use of authentic texts & realia.	Task-based, open-ended items; simulated, modified or semi-authentic texts.
SYSTEM - REFERENCED	Traditional oral and composition.	Traditional grammar and vocabulary tests.

(Adapted from: Baker, 1989:11)

Baker does not see one type of test as being inherently better than another. Each has its strengths and weaknesses, and must be adjudged in terms of the purpose, context and constraints of a particular testing situation. Traditionally, performance-referenced tests have tended to be used in making *judgments* as to whether a testee can cope with a particular task or not, whereas system-referenced tests have been favoured more as instruments of *measurement*, rating testees in rank order against a pre-defined set of criteria.

Baker (1989:15-20) points out that direct tests often produce indisputable results: either the testee could complete the task to a certain standard or he could not. But he considers the validity of direct tests to be vulnerable in that it is often difficult, for reasons of practicality and economy, to devise authentic tasks that actually invoke the testees' full range of skills applicable to the aspect of language being tested.

On the other hand, indirect tests, by virtue of their inferential relationship with the

target competence, are equally liable to have their validity reduced if just one step in the construction process - the chain linking test to reality - is faulty; in other words, there is greater scope for technical error. This problem can be exemplified by considering the relationship between communicative competence and knowledge of vocabulary and syntax. Clearly they are connected, but a measurement of one does not serve as a measurement of the other. Perhaps the relationship is more like that observed by Sherlock Holmes between shoe size and height - complicated, inconsistent but nonetheless present⁷. Nevertheless, indirect tests are usually easy to construct and administer. So important is this consideration that they have become the rule in testing rather than the exception (Baker, 1989:96).

Like all ways of naming things, the labels used here may be descriptive and therefore convenient, but they are not definitive. Baker (1989:28) stresses that it would be a mistake to imagine that all tests can be slotted neatly into the preceding categories. Achievement and proficiency tests often overlap, as do diagnostic and other types of tests; tests may vary in their degree of communicativeness; "direct" and "indirect" are two poles on a continuum; "performance" cannot be completely divorced from "system". But every test will show certain tendencies, which may usefully be described in terms of one or other system of nomenclature.

4.4 Testing Reading as a Whole Skill

Accepting the view derived from 4.2 above that language competence is partially divisible makes it theoretically possible to test reading as a skill separate from other aspects of language. Immediately, the question arises: Is reading itself further divisible into sub-skills which may be separately tested? Lennon (1970:19) notes that test catalogues give the impression that it is - that different tests can be used

⁷ c.f. Arthur Conan Doyle: *The Boscombe Valley Mystery*, Strand Magazine, 1891

to assess separately one, or at least a specific cluster, of an infinite set of reading sub-skills such as paragraph comprehension, word-recognition, word-attack skills, inferencing, retention of details, reading rate, skimming for global understanding, scanning for particular information, and ability to discern the writer's tone, mood, intention and bias. For decades, researchers sought to establish whether in fact this was so. Traxler (1941) analyzed data yielded by separate parts of the then-popular Van Wagenen-Dvorak Silent Reading Test, which he had administered to 116 tenth-grade (USA) pupils, and concluded that

the measures of Central Thought, Clearly Stated Details, Interpretation, Integration of Dispersed Ideas, and Ability to Draw Inferences appear to be measuring closely related reading abilities. There is at least reasonable doubt concerning whether or not the separate scores contribute anything greatly different from the reading level score.

Davis (1941) came to a slightly different conclusion when he sought to identify and measure the separate components of reading comprehension. From the literature, he extracted nine supposed categories of sub-skills within reading comprehension. For each of these categories he devised tests and administered them to groups of testees. After correlating the scores, Davis inferred that at least two factors - word knowledge and "reasoning in reading" - could be tested separately. However, Davis's data was subsequently re-analyzed by Thurstone (1946), who concluded that only one factor accounted for the variances in testees' scores; results obtained on all the other factors were so convergent as to suggest that they were merely different means of measuring a global reading ability.

Other evidence of this had already come from Conant (1942), who administered a variety of tests - both her own and others' - aimed at measuring separate reading sub-skills. Inter-correlations amongst almost all the measures were above .50, prompting Conant to state that there was no evidence of the testees' having invoked separate reading sub-skills in the cognitive-academic reading tasks which

formed the basis of the tests.

Following in the steps of Davis, Harris (1948) identified from the literature seven skills - which he termed "behaviours" - that were thought to be discrete factors in reading comprehension. Having tested two groups of adults on each of the seven skills by means of a battery of tests, and factor-analyzed the results, Harris posited:

One and only one ability is common to the comprehension of these literary passages of different types; and that one general factor is adequate to account for the intercorrelations of the seven variables.

This view was supported by Hunt (1952), who investigated six of Davis's factors as measurable reading sub-skills. Hunt developed tests aimed at measuring each of the six factors separately, taking particular care to have each test adjudged by a panel of experts as a valid test of one particular factor only. He then administered each of the six resultant tests on a group of 585 college students. In an analysis of the results, no evidence was found to suggest that the tests had measured one aspect of reading comprehension rather than another, or a sub-skill rather than global comprehension. Hunt considered this in itself to be evidence that, with the possible exception of the vocabulary test, the tests were measuring much the same function of reading comprehension.

Other studies by Maney (1952), Sochor (1952) and Stoker & Kropp (1960) also produced evidence which, though equivocal, could be interpreted as support for Hunt's findings.

Alderson (1990) reports on two studies in which he looked at the problem of identifying and testing reading sub-skills. In the first, conducted at Bombay University, a group of reading specialists were asked to divide a battery of test items into two categories: those which tested higher-order skills and those which tested lower-order reading skills. The touchstone for the two orders would be Pearson & Johnson's (1972) maxim that lower-order reading skills relate to

textually-explicit information, while higher-order reading skills relate to textually-implicit information⁸. The test items were then administered to a group of students and the results analyzed. This exercise produced four noteworthy outcomes:

- i) For most items, the experts could not agree on what skills each item tested. The experts also often changed their minds as to whether a skill was higher- or lower-order according to whether it was used in a test-item or simply given in a list of possible skills.
- ii) The items appeared to test overall reading proficiency rather than discrete skills.
- iii) There appeared to be no relationship between the level of difficulty of any item and the order of skill it was supposed to test. Some items deemed by the experts to be a test of a lower-order skill proved very difficult for testees, and vice versa. This is counter-intuitive.
- iv) Where the experts agreed on the order of skill being tested, items which tested lower-order skills discriminated rather better between testees than those testing higher-order skills. This, too, is contrary to what one would expect.

Alderson subsequently tried a similar experiment in Britain using the popular IELTS and TEAP tests⁹. A panel of judges - eighteen EFL teachers - was asked to match the items in each test against fourteen skills derived from Munby (1978), to rate these skills as higher- or lower-order (this time according to Weir's 1983 "Ordered

⁸ A discussion of the validity of Pearson & Johnson's taxonomy of higher- and lower-order appears in Thomson (1985).

⁹ IELTS = International English Language Testing System
TEAP = Test of English for Academic Purposes
Both are British tertiary entry-level EFL tests.

List of Reading Comprehension Enabling Skills in an EAP [English for Academic Purposes] Context"), and to place the items in rank order from easy to difficult. The TEAP test was then administered to foreign students and both introspective and retrospective protocols used to analyze their responses. The judges' conclusions mirrored those of the Bombay exercise¹⁰. From the think-aloud protocols it emerged that, in every question, the testees used different strategies, apparently involving combinations of several skills at a time, to arrive at an answer. These strategies did not correspond with the skills supposedly tested by each item. From these experiments, Alderson (1990:7; original emphasis) concludes that:

1. *A distinction between "higher" and "lower" order skills does not imply relative difficulty or differential acquisition.*
2. *The distinction between "higher" and "lower" order skills is not justified empirically.*
3. *Skills are overlapping, not discrete.*
4. *Test items probably test more than one skill at a time...*
5. *Individuals engage in different processes when responding.*
...
6. *The test-taking process involves the simultaneous and variable use of different and overlapping skills.*

It would seem, then, that reading ability is in practice best measured as a whole skill. This concurs with the theoretical view, discussed in Chapter Two, Section 2 of this thesis, that reading is an holistic, indivisible process.

¹⁰ It may be worth recording that, in the seminar in which Alderson reported on this exercise (5 April 1990), this researcher, along with 23 EFL teachers from 19 countries, re-enacted the experiment, with much the same results.

4.5 Uses of Tests

As McDonald (1970:12) points out:

All data secured from people - by whatever means - are samples of performance. Accounts of behaviour observed by others, scores on standardized tests, self reports, etc., are all only samples.

This implies that the assessment of reading is necessarily based upon incomplete evidence. Bachman (1990:32) firmly believes that this is the case:

all measures of mental ability are necessarily indirect, incomplete, imprecise, subjective and relative. (Original emphases)

Since reading is a form of thinking that is stimulated by the written word (McDonald, 1970:7), Bachman's comment applies as much to reading assessment as to anything else.

Starting from the same point, Traxler (1970:220-1) describes a limitation in reading tests which, he claims, can never be resolved:

If reading were wholly, or even mainly, a mechanical process, as is implied in some theoretical discussions and some methods for the teaching of reading, then measurement would be comparatively simple... Reading is a complex, unified, continuous activity which does not naturally fall into subdivisions or measurable units. In this respect, reading differs from other basic skills, such as arithmetic or spelling... Reading is a process which flows past as you try to appraise it. You can arrest the flow to examine some aspect, but then it ceases to be reading.

All of this raises queries about the validity of any reading proficiency test, but

Traxler goes on to submit that there is no alternative but to live with the situation:

We ask a series of questions when the reading is finished and hope that the answers to those will indicate the quality of the comprehension which took place while the reading was being done. This isn't as good as we would like it to be, but it is about the best we can do. (1970:221)

If this sounds like evasion, a historical analogy may show that the problem is by no means confined to reading researchers. The Duke of Wellington, when asked to write a history of Waterloo, is said to have retorted, "One might as well try to write the history of a dance". Historians and choreographers have since aspired to do both, with some success; and there is no doubt about who won the battle. In the same way, it is difficult, though not altogether impossible, to describe the reading process - which is so fluid and elusive, being simultaneously unique to the reader, the text and the situation. It is only a little easier to establish whether one reader understood a text better than another.

Traxler (1970:224) presents the tester with another conundrum when he contends that there is no clear differentiation between measuring reading comprehension and measuring intelligence, since reading is really a form of thinking. Therefore, scores on a test that probes reading comprehension reflect the testees' innate intelligence as much as their reading ability. This being so, it is difficult to see how low scores on such a test can be improved by teaching!

Nevertheless, Traxler is no enemy of testing. Accepting the limitations of reading tests, he goes on (1970:224-6) to argue that they are still worthwhile on account of four redeeming values:

- i) They lend a degree of definiteness and objectivity to one's thinking about the achievement of a pupil or a group.

- ii) As a corollary of this, they are well-suited to the appraisal of the growth of individuals and groups within a developmental reading programme.
- iii) They are useful for the diagnosis of strengths and weaknesses of individuals and groups as a starting point for remedial work.
- iv) They frequently serve to identify gifted pupils at an early stage.

Strang (1970:37) endorses this judgement, arguing that standardized test results constitute a valuable source of information for researchers, administrators, teachers and reading specialists, each of whom approaches the data with a different set of questions in mind.

McDonald (1970:12) sees another potential problem in testing:

Standardized tests are still measures of performance at a particular place and time under certain conditions. Their scores represent a relationship which is believed to exist between standing on the test and performance in real life.

He suggests that this limitation and the fact that, in his experience, standardized reading tests measure what he calls "the familiar triad" of rate, vocabulary and comprehension, reduce the value of such tests.

Chall (1970:52), counters this:

The most common use of standardized tests is to determine over-all reading achievement of individuals and groups in comparison to that of the general population. The grade levels or percentile ranks afford both a measure of achievement and comparison with the population

on which the test is standardized.

She acknowledges that

Tests are only samples of behaviour and measure only what a person does at a particular time and place. Some people do their best in reading on tests; others do their poorest. (1970:51)

and therefore does not advocate the use of standardized tests as a measure of *individual* performance. But with the assessment of large groups in relation to one another she has no serious objections:

In interpreting the test results of a class or school, the "best" and "worst" performances may balance out, and the average scores may represent the group's actual performance. (1970:51; original emphases)

Harris (1970:96) takes a middle road:

Standardized tests can produce useful though limited information; informal procedures must be used to expand their findings.

On balance, there seems to be general acceptance amongst experts that standardized reading comprehension tests are of value in measuring and comparing the progress of groups of pupils. This value is increased when the data yielded by the test is augmented with other, qualitative information.

4.6 Some Technical Considerations in Test Construction

4.6.1 Validity

This is traditionally one of the most important considerations in the design and evaluation of a test. Heaton's (1988:159) simple definition of validity is perhaps also the clearest:

*The validity of a test is the extent to which it measures what it is supposed to measure **and nothing else**. (Original emphasis).*

Alderson *et al* (in press:ch 8, p1) stress the importance of validity:

The most important question of all in language testing [is]: Does the test test what it is supposed to test? This issue should be of central concern to all testers, since if a test is not valid for the purpose for which it was designed then the scores do not mean what they are believed to mean. (Original emphasis).

Up to seven different "types", or aspects, of validity, are frequently recognised by experts - namely:

- i) **Face validity:** Does the test *look* right? Here, the lookers are usually assumed to be non-experts: teachers, administrators, perhaps even the testees themselves. Though long disparaged as a cosmetic factor in testing (see, for example, Stevenson: 1985), face validity is now enjoying a radical reappraisal of its importance. In Heaton's (1988:160) words:

The concept of face validity is far from new in language testing but the emphasis now placed on it is relatively new. In the past, face validity was regarded by many test writers simply as a public relations exercise. Today, however, most designers of

communicative tests regard face validity as the most important of all types of test validity. (Emphasis added).

Again, Alderson *et al* concur (in press:ch8, p3):

Our own position on the issue is that face validity is important in testing... If test takers consider a test to be face valid, we believe that they are more likely to perform to the best of their ability on that test, and to respond appropriately to items. In other words, we believe that face validity will affect the response validity of the test.

A driving test may be used to illustrate this point. It would have high face validity if the testee believed that she was going to be called upon to drive her car on public roads under more or less normal conditions. Her driving would then be as skilful as she could make it. If, on the other hand, the test were to be by means of a simulator, she might not consider it to be an authentic exercise and her responses would be less likely to reflect the full range of her driving skills.

- ii) **Content validity:** Is the content of the test *a representative sample* of the behaviour it is designed to measure? To establish whether it is, the content of the test needs to be compared with a definition of the target behaviour. In a driving test, this is taken to mean all the main skill areas of driving: starting, signalling, turning, braking, reversing, parking and so on. In language teaching, it could be the syllabus or curriculum, or some other description of the corpus of language which the testees are expected to master. Determining whether the test elicits a sufficiently representative sample of such behaviour is always a problem. Of this, Bachman (1990:9) writes:

One of the most important and persistent problems in language testing is that of defining language ability in such a way that we can be sure that the test methods we use will elicit language test performance that is characteristic of language performance in non-test areas.

The comparison between target test performance and the corpus of language being tested is generally assumed in the literature to be the proper domain of experts, who are capable of making sound judgments as to the content validity of a test. However, Alderson's (1990) experiments, described in Section 4.4 above, cast doubt on this assumption. Perhaps in testing, as in so many other aspects of life, the opinion of experts is as divided as that of laymen.

- iii) **Response validity:** Does the test elicit from the testees *the sort of responses* (often in the form of mental processes) which it was intended to? This is a relatively new concept in language testing and its rise to prominence has paralleled that of Think-Aloud Protocols (TOLs), with which it is closely associated. Data on this is difficult to gather, a point taken up in Section 5.2 following: **Verbal Response Techniques.**

- iv) **Concurrent validity:** Do the test results concur with *some other measure* of the testees' abilities? For language tests, the obvious sources of data on concurrent validity include teachers' markbooks and other tests. It is important to ascertain whether the sources of concurrent validity data actually measure the same aspects of language as the test being assessed, and whether these sources are themselves valid. Otherwise, one ends up comparing the proverbial apples and pears. Returning to the analogy of the driving test, it is clear that the questionnaire-test for a learner's licence does not examine the same things as the road-test for a full licence, and one

cannot be used as a check on the other.

- v) **Predictive validity:** Does the *subsequent performance* of the testees in real-life bear out the test's predictions of their abilities? This can only be determined by following up on the testees over a period of time. Clearly, this is not something one would do for a one-off test, but only for a test intended for frequent re-use. Once again, driving tests furnish a classic example: the South African system of driving tests was recently revised extensively, in response to evidence from road accident statistics that the existing system was not producing competent drivers. Gathering predictive validity data often poses numerous practical problems, but a test that can be shown to predict the testees' ability to perform later in real-life has proved its worth indeed. That, after all, is what a test is all about.

- vi) **Construct validity:** Does the test accord with some *generally-accepted theory* of what the target behaviour is and how it manifests itself? Again, this is usually determined by expert opinion. In recent years, complex theories of factor analysis - that is, the correlation of statistical coefficients - have been devised in an attempt to make the measurement of construct validity more objective. Such sophisticated procedures are certainly not accessible to most teachers or testers, nor are they practical for everyday purposes. This raises against them the same criticism of "technicist exclusivity" as was raised against psychometric tests, as described in Section 4.2 above.

- vii) **Washback validity:** Does the test *influence teachers* towards better teaching and testing practice? A well-known phenomenon in schools where a course is to be followed by an external examination is "teaching to the test". The matric examination system is a case in point: many a Std 10 teacher

(including this researcher) has opined that education happens from Gr 1 to Std 9; thereafter, one prepares for an exam. If the test does not comprise authentic tasks, then its washback effect, though powerful, will be highly undesirable. The communicative school in particular have emphasized the washback effect as a measure of a test's validity. Morrow (1985:2), for instance, points out that, where there is conflict between the theoretical objectives of a syllabus and the practical demands of a test, the test will always win. A test which does not have a positive washback effect will tend to undermine teaching and learning. It cannot then be considered a "good" test.

Not all authorities agree on the division of validity under these headings. Thorndike & Hagen (1986), for instance, prefer to speak of **rational** (i.e. content), **empirical** and **construct** validity. Alderson *et al* (in press) suggest a grouping of (i) to (iii) under the heading of **Internal Validity**, and of (iv) and (v) under **External Validity**, leaving (vi) and (vii) to stand on their own. Regardless of taxonomy, though, the concepts are generally recognised. Nevertheless, it should be noted that traditional ideas on validity are now being strongly attacked, in the main, by communicative language theorists. Heaton (1989:162) sums it up:

How far can we trust the criteria we use for establishing validity? This is one of the major criticisms of empirical validity made by the communicative school of test writers. The argument is simply that the established criteria for measuring validity are themselves very suspect: two invalid tests do not make a valid test.

4.6.2 Reliability

The second of the classic criteria for test evaluation, reliability essentially means the extent to which the data collection procedure is consistent and accurate (Seliger & Shohamy, 1989:185). Like validity, the concept of reliability is sub-

divisible:

- i) **Inter-rater reliability:** To what extent *do different raters (or markers) agree* on the data gleaned from the test?
- ii) **Intra-rater reliability:** Will the *same rater assign the same score* after some time has elapsed since his first assessment?
- iii) **Test-retest reliability:** Does the test produce *similar results on similar subjects*, i.e. is the test stable over time?
- iv) **Internal consistency:** Are the test items related to one another in that they *measure the same thing*?

Various statistical means of measuring and expressing reliability have been devised. A coefficient of reliability can be easily derived from a test-retest exercise. Also popular is the split-half method, in which the test is divided into two equal parts (say, odd numbers and even numbers) and the corresponding scores correlated. Other formulae, such as the Kuder-Richardson (K-R20) and the Cronbach alpha (α) measure the internal consistency of a test by its results.

4.6.3 Validity vs Reliability

Clearly, the ideal test should be both valid and reliable (Madsen, 1983:178; Heaton, 1989:164). Unfortunately, there is an inherent tension between the two. Again the faithful analogy of the driving test illustrates this. Requiring testees to identify road signs may be a reliable procedure in that it produces unfailingly consistent results, but it is not a valid test of their ability to drive a car. On the other hand, getting testees to drive on the road may not produce reliable results, because all the variables of vehicles, roads, testers and testees cannot be controlled all the time; as a result, good learner-drivers sometimes fail the test and

(to judge from experience) road-maniacs sometimes get licenses.

It is clear that results derived from an unreliable test cannot be considered accurate, no matter how valid it may appear to be. So validity is no use without reliability. On the other hand, a test can be reliable without being at all valid, and efforts to increase validity usually lead to a decline in reliability (Weir, 1990:33). Thus, the test writer is always striving for an acceptable compromise between the two. It is generally agreed that validity should take precedence over reliability (Heaton, 1989:165; Weir, 1990:33). What matters in the end is whether the test yields results which can be considered a fair and accurate reflection of the testees' abilities (Alderson *et al*, in press: ch8, p15).

Bachman (1990:56) may be allowed the last word on the knotty problem of validity versus reliability, pointing out that the importance of both validity and reliability is relative to the purpose of the test:

While we must always strive to make our test scores as reliable as possible and to demonstrate that our uses of test scores are valid, the levels necessary for both of these qualities are relative, and depend upon the importance of the decisions to be made.

4.6.4 Economy

Tests, like everything else, have a price tag. They cost time, effort and money to devise, trial, administer, mark and interpret. Care must always be taken to ensure that the total cost is not allowed to exceed the value of the exercise. In Heaton's words (1989:167):

A test must be practicable: in other words, it must be fairly straightforward to administer. It is only too easy to become so absorbed in the actual construction of test items that the most obvious practical

considerations concerning the test are overlooked.

Weir (1990:34) concurs:

A valid and reliable test is of little use if it does not prove to be a practical one. This involves questions of economy, ease of administration, scoring, and interpretation of results.

It is likely, too, to necessitate trade-offs with other aspects of test design, such as validity and reliability - both of which require considerable time and effort to achieve.

Caldicott (1992:27) goes further than Weir with her opinion that, at least as far as the testing of young learners is concerned,

Traditional test criteria of validity, reliability and objectivity must take their chances alongside customer care issues such as the user-friendly nature of the test items, the cultural acceptability of the content, speed of marking, the facility to administer the test easily and at short notice, the attractive appearance of the materials and so on.

Reacting to the tendency of some test-writers to be straight-jacketed in their thinking by traditional notions of reliability and validity, Carroll (1980) proposes revised evaluative criteria for tests:

- i) **Relevance:** how relevant is the behaviour being tested to the meeting of communicative needs?
- ii) **Acceptability:** will the users of the test accept its content and format?
- iii) **Comparability:** can the test scores obtained at different times and from different groups be compared. (This seems to be a variation on the theme of

reliability.)

- iv) **Economy:** do the tests provide as much information as required with the minimum expenditure of time, effort and other resources?

As with all nomenclature, one must see all these labels as being not so much definitive as descriptive of a viewpoint.

5. AN APPLIED THEORY

5.1 A Need for Quantitative Data

Despite the evaluations mentioned in Section 3 above, there remained an important gap in the Molteno Project's knowledge of itself. In assessing the effectiveness of Molteno courses and their components, external evaluators and Molteno staff have in the past, for both theoretical and logistic reasons, relied heavily upon qualitative methods and these methods were sometimes inadequate to the task. This left some important questions unanswered:

Just *how much* better do pupils perform as a result of Molteno courses? With *precisely which* aspects of the reading courses do they do well? And badly? To *what extent* does an early grasp of literacy in the mother-tongue help them with English? *How far* can they be expected to go under the adverse circumstances which generally prevail in rural southern African primary schools? What is an *accurate measure* of their performance?

Classroom observation, ethno-methodological studies, teacher interviews, opinion polls of experts, materials' critique or other methods of qualitative assessment provided some answers to these questions, but not all. They remained questions to which, for several reasons, the Project needed to have the fullest possible answers.

Firstly, the Project naturally wished to quantify the results of its own efforts. Perhaps more importantly for the survival of its courses, *teachers* needed reassurance that the innovations they are adopting, so different from previous experience and so demanding for many of them, produce measurable results in classes other than their own.

Another reason for wanting quantitative information on the relative performance of Molteno and non-Molteno pupils is the "understandability" of such information to existing and potential donors. This is a serious issue for any non-governmental organisation (NGO). In South Africa state funds have not hitherto been available for NGOs. They are therefore reliant, as the Molteno Project is, upon donations from commerce and industry, or from donor agencies. Both these categories of donors - but especially the former - expect and sometimes require quantifiable data on the effect of the recipient NGO's efforts.

Then again, it was felt within Molteno that statistical data might well throw up information previously overlooked by qualitative evaluators. This can happen because observers' views of what is happening in the classroom are inevitably subjective to a degree. Moreover, a significant trend, developing slowly, may easily pass unnoticed by even very astute classroom observers simply because they are not present long enough to see its unfolding. Conversely, the observers may be there so long that they become part of the process themselves: we do not notice our own children growing up.

Nuttall & Langan (in press:30) acknowledge the weakness in the evaluations of the Project conducted to date and therefore gaps in the Project's perception of itself:

The second factor, one which we believe has not contributed to success, has been the Project's comparatively poor record of in-depth and focused evaluation. Until recently, the Project has assumed that the spread of its courses and its theoretical validity have been

sufficient indicators and predictors of success. By the end of 1980, a total of 476 classes were using Project materials, in four local areas in South Africa. By the end of 1985, this total had risen to 1062 classes, in an increasing number of regions in South Africa and a few schools in Botswana. At the end of 1992 Molteno courses were being used in 10,329 classes, in almost every region in South Africa, and in schools in Botswana, Lesotho, Swaziland and Namibia.

In the light of this massive expansion the Project has, probably unwisely, assumed that its programme 'is working', and that the quality of teaching and learning has automatically been improving. Similarly, most of the external evaluations referred to earlier have tended to be 'macro-level' views of the Project's operation and organisation, rather than 'micro-level' assessments of what is actually happening in classrooms.

So, for example, while we have much anecdotal evidence that Molteno teachers are 'more child-centred' than their non-Molteno counterparts, or that 'Molteno pupils in Standard 1 can do comprehensions better than Standard 4 pupils in non-Molteno classes', or that retention rates in Molteno schools are better than elsewhere, the Project has, in the past, made insufficient attempts to gather ethnographic and empirical data on classroom processes and the performances of teachers and learners.

The research upon which this thesis rests was part of a concerted effort by the Molteno Project to remedy this defect.

The first step was to find suitable research instruments.

5.2 Verbal Report Techniques Considered

Verbal report techniques, such as Think-Aloud Protocols (TOLs), are now commonly used in the field of reading research. Verbal techniques, which may be introspective (requiring the subject to report aloud on the workings of their minds as they perform the task) or retrospective (involving a reflective "debriefing" of the subject's memory after the task has been completed), are believed to yield rich data on the subjects' actual experiences and thought processes in the performance of a given task (Seliger & Shohamy, 1989:170). Though verbal report techniques are by their very nature associated with qualitative research, they have at times been used with larger-than-usual numbers of subjects to provide quantitative data. Sarig (1987), for example, did a TOL study with 130 subjects and Anderson (1991) with 28. Typically, however, the numbers in TOL studies are much smaller than these, leading some researchers, such as Carrell (1989:122), to question whether conclusions thus reached may be validly generalised to larger populations.

Nevertheless, the respectability of verbal report techniques meant that they could not lightly be dismissed as an instrument in this research project. On reflection, however, it was apparent that, for both theoretical and practical reasons, such techniques would not serve the ends of this research.

Firstly, children as young as those who were the subjects of this research lack metalinguistic and metacognitive skills to engage in meaningful think-aloud exercises. Seliger & Shohamy (1989:170) note that there are situations

where insufficient data are obtained and it is not possible to know whether this is a result of limited cognition, limited language skill, or some combination of these factors. The method may also be difficult to use with young children.

It was soon clear to this researcher that, in practice, junior primary pupils in black schools usually do not have enough English to convey everyday ideas, much less

abstract ones. Even in the mother tongue, experience showed that pupils were not able to think about their own thinking and then verbalise it. This is precisely what Piaget would have predicted: in terms of his taxonomy of developmental stages, children in junior primary classes (where the ages range from about 5 to 10) would be in the concrete operational or even the pre-operational stage.

It may also be argued that, even if the children had been capable of thinking metacognitively, they and the researcher would still not be using the same "language". Could children who tried to explain their own thinking be fully understood by a researcher trained to think and speak in the academic language of verbal report techniques? There is some evidence that they could not. Dixon (1992:46) is critical of the apparently loose application of terminology in EFL TOL research:

Whilst qualitative research is not constrained by the parameters of experimental precision, ... certain terminology should be defined and utilised more precisely, so that the very strength of TOLs as qualitative research does not become the technique's greatest weakness.

Dixon goes on to argue a need for

more precise definition and application of TOL terminology, and the basic concepts surrounding TOL research, in order to establish the necessary parameters within which all future ESL TOL research should be conducted. (1992:142)

So there would always be the danger of a mismatch between what the subject was trying to say and what the researcher made of it¹¹.

¹¹ The medical profession has a similar problem in diagnosis. Patients describe their complaints in layman's terms and doctors try to relate these to clinical terminology. Medics tackle the problem by distinguishing between *symptoms* (what

Another problem with verbal report techniques in the context of black schools is that powerful social and cultural norms preclude free communication between young children and an adult interlocutor, especially a white one. Children are simply not used to volunteering information about themselves, nor to being questioned about what they are thinking. Macdonald makes this point repeatedly in the various reports of the Threshold Project. For example:

- *Black children are very seldom asked to give a justification for what they, personally, think. (1990d:46)*
- *While they are teaching, teachers expect absolute attention from their class, and to all intents and purposes they appear to get it. Nevertheless, if a child is unable to answer a question, he will in many cases be accused of not listening. (1990c:80)*
- *Craig's (1985) research with Zulu mothers and children and teachers and children doing problem-solving tasks revealed that there was a virtual absence of probing questions by mother or teachers or information-seeking questions by children during the task executions. (1990c:105)*
- *'Why' questions [by children of adults] are often actively discouraged, and listening to conversations between adults is considered a forbidden activity (1990c:84)*

One would expect, too, that attempts to use verbal reports or even error-analysis studies in black primary schools would be thwarted by what Macdonald (1990:63)

the patient describes) and *signs* (what the doctor observes). Psychologists and language researchers would like to do same; the trouble is that mental processes, unlike physical ones, are invisible.

calls

the two most replicated results of recent years tying metacognition to reading....:

- *younger and poorer readers have little awareness that they must attempt to make sense of text; they focus on reading as a decoding process, rather than on a meaning-getting process...*
- *younger children and poorer readers are unlikely to demonstrate that they notice major blocks to text understanding. They do not seem to realize that they do not understand.*

There is also the problem of the relatively high cost of administering verbal report protocols on a large scale. As Weir (1990:34) points out:

To provide profiles rather than standard scores, each part of the profile will need to reach an acceptable degree of reliability... To enhance validity by catering for specific needs and profiling, more tests will be needed, thus further raising the per capita costs as compared to those of single general tests available for large populations.

For many reasons, then, some other instrument than verbal report techniques was indicated for the purposes of this research.

5.3 Cloze Tests Considered

As noted in Section 4.2 above, the cloze test has proved to be a popular and enduring means of measuring integrated reading ability. In South Africa, for example, it was used in the HSRC's English course evaluation (see Kroes & Walker,

1988) and in the Threshold Project's English language skills evaluation (see Macdonald 1990). Thus, it was a natural port-of-call in the quest for a testing-instrument suitable for this research .

However, theoretical problems were soon encountered. While the literature on testing holds the cloze test in high regard as a test of general language proficiency, it does not necessarily follow that it is equally valid as a test of reading proficiency. This statement may seem at first to be self-contradictory, since the two proficiencies - general and reading - are surely interlinked. This is true to a degree: if one can generate and transmit encoded messages then one can undoubtedly receive and decode them - provided, of course, that sender and receiver use the same code. But it has already been argued that an adult first-language writer and a very young second-language reader may not use the same codes at all - that is, may not share the same world view, the same knowledge of language in written discourse and the same hypotheses about what a text ought to contain in order to establish meaning.

There is as yet no generally-accepted explanation of how testees actually arrive at the answer to cloze questions. Klare (1966) reports that testees in an EFL cloze test may be able to fill in missing words without having understood what the passage was about. On the other hand, Engineer (1977) argues that an analysis of the patterns of answers in cloze tests may actually reveal the *process*, though not the *product*, of the reading episode.

From a comparison of testees' performance on various types of reading test, Grundin *et al* (1981) come, like Klare, to the conclusion that a reader may do well on a cloze test without a global understanding of the text.

Alderson (1978) demonstrates that the results of a cloze test can be altered by shifting the point at which deletions are started and by changing the *n*th rate of deletion. This implies that a given cloze test may actually measure different sets of language skills, depending on how it is structured.

Gilliland (1972) and Berkoff (1979) report independently on their observations that testees frequently restore words correctly to a text, despite only vague comprehension, on the basis of background knowledge and familiarity with patterns of expression.

Of course, the strategies described by Gilliland and Berkoff would be those of an experienced and probably "test-wise" reader. In the case of young children - who are inexperienced at reading, at taking tests and at doing the two together - the very opposite would probably be the case. They would probably stumble over the unfamiliarity of the task, the apparent non-sense of the text and their ignorance of the fact that background knowledge of the world and of language may be consciously invoked to complete sentences. This certainly proved to be the case with many pupils who attempted the cloze tests used in this research, a point taken up in Chapter Four, Section 2 of this thesis.

Macdonald, who made use of cloze tests in the Threshold Project research, concedes (1990:7) that

Our own experience on the Threshold Project with four different cloze tests has shown us that these tests are extremely difficult and the results (because the scores are so negatively skewed) are difficult to interpret.

Macdonald (1990:31) goes on to explain that an early failure with a standard cloze test led her, in conjunction with Prof. L. W. Lanham, to design what was intended to be a cloze test with very supportive, predictive context. This, too, proved a failure, as did still a third test based on some science materials that Macdonald was trialling at the time. On reflection, she observes (1990:31) that

Hence, our association with cloze tests on the [Threshold] project was neither happy nor productive.

Heeding this cautionary tale and noting the theoretical problems which precede it, this researcher decided that cloze tests would not serve as a valid instrument for the basic purposes of this research.

5.4 Communicative Tests Considered

It may be assumed that an objective of any reading course is to enable the students to interact more effectively with text. In the context of the junior primary school, this means that pupils should, as a result of the reading programme in use, become progressively more able to read:

- i) their own writing
- ii) school textbooks (both narrative and expository)
- iii) other written material which they may encounter in the wider world, such as comics, magazines, story-books, labels, posters, notices and, eventually, instructional books.

In each of the above categories, the reason why pupils should be able to read such material is obvious: sooner or later they will be called upon either in school or outside to perform tasks arising from such texts. Even recreational reading imparts knowledge which can be applied to other aspects of real-life. In other words, the development of reading proficiency in primary school pupils is a matter, not of choice, but of necessity. It is true that non-schoolgoing children - of whom there are thought to be over a million in South Africa - develop many ingenious strategies for coping with their illiteracy in a literate society. But as adults they cannot share fully in the economic or cultural life of the community, or reach their full potential in the mainstream of society.

The communicative language teaching paradigm has already been discussed in

Chapter Two, Section 2, of this thesis, where it was suggested that this approach to language teaching offers much in terms of meeting the demands which real life makes on pupils' language proficiency. Given the oft-mentioned link between teaching and testing practice, it seems logical that if language, and especially reading, proficiency should be communicatively *taught* then it should also be communicatively *tested*. The general characteristics of communicative language tests are described in Section 4.2 of this chapter.

For the purposes of this research, the perplexing question was how to reconcile the sophisticated demands of communicative language testing - authenticity of texts and tasks, real-life performance conditions, representative language samples and so on - with the unsophisticated capabilities of the pupils, and the unsuitability of the testing environment (rural primary school classrooms) for anything but the most straightforward procedures. There was also the obvious and related problem that pupils taught through very different reading schemes - one of which claimed to be communicative, the others being unselfconsciously more traditional - had to be tested by methods which were fair to all groups. The answer to these dilemmas seemed to lie in Omaggio's theory of "hybrid communicative tests".

Omaggio (1980) first proposed what she called "hybrid tests" for purposes which closely matched those of this research, namely, as means of bridging the gap between linguistic theory and classroom practice. Says Clarke (1983:434) of this:

The significant conceptual contribution made by Omaggio was to relate teacher-prepared classroom testing activities to functional proficiency development concerns by suggesting that, notwithstanding the fact that linguistic material that can be effectively dealt with in typical academic settings is necessarily restricted in terms of both the range of grammatical features and the lexical items represented, the classroom teacher should nonetheless make every effort to teach and test this reduced corpus within the context of realistic, functional language-use situations having genuine communicative relevance for

the student. Towards this end, Omaggio described and provided examples of what she termed "hybrid tests" which "artfully combine grammar and context, structure and situation".

The principles of hybrid tests, as described by Omaggio (1980:49) are:

- i) The situation depicted is relevant and immediately useful to the learner.
- ii) The content reflects the level of sophistication of students and their knowledge of the world.
- iii) The language is natural, respecting the conditions of elicitation of certain types of structures in natural language use.
- iv) The answers have "truth value" in that they do not involve imaginary or contrary-to-fact responses.
- v) The characters used in items are realistic in that they relate to the learners' experience in some way.
- vi) Items respect sociolinguistic norms.
- vii) The language sample is short enough so that pupils have little difficulty remembering it but long enough to provide the necessary context.

Clarke (1983:435-6) sees three particular advantages to such hybrid tests:

- i) Within the constraints of the corpus of learned material they approximate genuine communicative settings more closely than highly proficiency-based tests.

- ii) Teachers can more readily understand and administer such tests than very complex and specialised procedures, such as those used by psychometrists, and can quickly develop and extend their own expertise in devising and utilizing such tests.
- iii) Students appear to find them interesting and motivating.

He adds the caveat, however, that hybrid tests cannot be considered true proficiency tests in that their content is, intentionally, limited to those aspects that have been dealt with in the course of instruction.

Nevertheless, while acknowledging this limitation of hybrid tests, Macdonald (1990:8) considers it to be overshadowed by the fact that

These tests combine grammar and context, structure and situation into testing exercises that, while limited to the specific structures and general areas of lexis dealt with in the course, reflect real-life communication situations to the greatest extent possible.

Considering the objectives and circumstances of this research, the researcher was in accord with Macdonald's view (1990:12) that:

For our purposes hybrid-communicative tests which use classroom-based material in authentic tasks would be a good model to adopt.

Weir (1990:14-15), too, calls for tests to correspond more closely with classroom practice that is both desirable, from a theoretical point of view, and attainable by the teachers involved. Though his examples are specifically tertiary- or advanced-level EFL tests, he is surely stating an important general principle when he says that:

Most language teaching coursebooks and accompanying teacher manuals, if they contain any advice on testing at all, usually offer vague theoretical generalisations far removed from the practical needs of the teacher who has to construct achievement tests for use in the classroom. Equally unpalatable is the outdated and overly-specific advice that is sometimes provided on various discrete-point, non-communicative, atomistic approaches, which pay scant regard to any of the insights gained through testing research in the last two decades...

There are strong arguments for following the lead of the UCLES/RSA¹² in this respect. In the design of their certificates in Communicative Skills in English, the test constructors drew heavily on what EFL teachers thought to be sound practice in the classroom. The communicative tests that resulted are in essence classroom-proven teaching techniques which are convertible to elicitation techniques in a test situation. (Emphasis added.)

Thus, it was decided that tests which would form the basis of this research would aim to uphold *inter alia* the following three principles:

- i) They would be communicative.
- ii) They would span the gap between linguistic theory and actual classroom practice.
- iii) They would be useful to, and usable by, teachers as examples of

¹² UCLES/RSA = University of Cambridge Local Examinations Syndicate/ Royal Society of Arts [Examination Board]

These two organisations have jointly pioneered the use of communicative language testing techniques in standardised exams for EFL students.

better teaching and testing practice than they had previously employed.

The emphasis thereby given to a positive washback effect was partly inspired by Weir's (1990:13-14) assertion that:

If our communicative tests have a beneficial backwash effect in encouraging the development of communicative capacity in the classroom... then we can be less worried about the theoretical or empirical shortcomings of our knowledge of language in use. Similarly, if we can include in our tests what is considered to be most appropriate and best practice from the language classroom the match between teaching, testing and reality is that much enhanced.

The process by which the tests were constructed and administered is described in Chapter Four.

CHAPTER FOUR

THE RESEARCH

1. THE RESEARCH MODEL

1.1 The Agricultural Model

In the words of Seliger & Shohamy (1989:24),

Scientific research seeks to describe, identify, and control relationships among phenomena in order to study them.

In applied research, this is frequently achieved through what is called the "agricultural model" - the metaphor being of a farmer who plants all his usual seed ("the control") in one field and all the new seed ("the experiment") in another, and sits back to await results. If one crop surpasses the other, then its seed was unarguably the better strain for those conditions, even allowing for the proverbial vagaries of nature, since the farmer has in the meantime been able to control all the variables *between* the fields. So much research in so many different fields of knowledge has been conducted by this control-versus-experiment method that it has come to be viewed as the quintessential scientific research model.

In research involving people, however, the agricultural model is not always easy to implement. The farmer's advantage over the social scientist is obvious: crops do not walk, people do. It is a fact that people everywhere resist being compartmentalized into "experimental" or "control" groups. It goes against our natural human desire to meet one another, to share and exchange ideas, and to copy what seems to be good.

In the African school environment, this problem for researchers is particularly acute because many teachers, being unsure of their own professional competence, naturally tend to copy their colleagues' practice. There is a very pronounced syndrome of seeking security in numbers. In the eyes of many teachers, especially those thousands who are un- or under-qualified, the practice of the majority is most likely to be safe and right. They therefore copy "consensus practice", despite exhortations not to do so from the controller of some vaguely-interesting experiment in which they may be participating.

In pursuit of scientific objectivity, validity and accuracy, this research adopted the agricultural model. It must be frankly acknowledged that this was a high-risk decision. The tendency of the Project and non-Project groups to escape control was a perennial problem.

Several factors visibly militated against the complete separation of control and experimental groups:

- i) Owing to local political unrest and other factors beyond the researcher's control, not all teachers in the Project group were trained. For example, all the target teachers in one of the three Project circuits missed key training courses in 1990 and in 1993. As a result, they tended to use the same, traditional teaching methods as their colleagues in control schools and their implementation of Molteno courses was uninformed and idiosyncratic to say the least. This was subsequently reflected in their lower results.
- ii) The chronic unrest which prevailed throughout South Africa in the years 1990-1994 - the period of this research - led to a general decline in the standards of education in Black schools around the country. This undoubtedly affected pupils' results in both control and experimental schools. It is assumed that the effects on classroom practice would be more deleterious in experimental than in control schools since innovation is a fragile plant.

- iii) The high rate of teacher-turnover which is endemic to black schools led to a slow haemorrhage of Project-trained teachers from experimental schools. Year-by-year throughout the four-year life of this research, teachers resigned, were transferred, took maternity leave, got "promoted" to higher standards within their schools or followed their classes up from SSA to Std 1 before being recycled to SSA in the fourth year. Although maintenance training was carried out during the course of the experiment to combat the effects of these movements, there were still cases of experimental classes not being taught by Project-trained teachers. There were also a few cases of Project-trained teachers ending up in non-Project (i.e. control) schools. There were more cases of Project-trained teachers in experimental schools being assigned by principals to teach classes at a level for which they had not been trained; for instance, SSA teachers who had been trained by Molteno to implement Breakthrough (a mother tongue literacy course) sometimes found themselves teaching Bridge (an EFL course) in SSB.
- iv) There was always the problem in the experimental classes of methodological pollution from other subjects. Pupils, especially in Stds 1 and 2, mainly practised their newly-acquired English reading skills in the context of other subjects which were still being taught largely by transmission methods. This would tend to undermine teachers' use of the new methodology as their newly-acquired techniques of progressive reading tuition were to some extent continually eroded by the recidivism encouraged by the traditional methods used in other subjects.
- v) The research process itself may have produced significant variables *during the period of research* which tended to skew the results one way or the other. It is impossible in any social research to predict what these will be or even to identify all of them when they arise. But one may assume that they are there. A good example, in the case of this study, was the desire amongst parents to get their children into Molteno Project schools by hook or by crook. (This was widely and repeatedly reported by Kangwane

officials, including the then Secretary for Education). One would predict that a likely consequence of this would be to disadvantage Molteno schools in the tests because numbers of pupils in every class were new to the Molteno courses.

- vii) There is an ethical problem in preventing beneficial innovation from spreading, even in diluted form, simply in order to maintain the integrity of an experiment. Why should other schools not have access as soon as possible to something that shows signs of success? In an underdeveloped system, this is no mere academic point.
- viii) Teachers also resist controls because these are contrary to their own purposes, *viz.* to use new materials the way *they* want to, to share ideas with colleagues, to seek mutual re-assurance, to stay in a "safe" methodological zone¹.

There is no way of quantifying the effect of these interferences on the research

¹ These problems are not confined to educational research. In medical research, ethical problems arise for precisely the same reasons. For example, in February 1986 the pharmaceutical company Burroughs-Wellcome commenced a clinical "double blind" trial of a new drug, AZT, which offered hope of a cure for AIDS. The trial involved 281 subjects, all AIDS sufferers, who were equally divided into experimental and control groups. In a well-documented account of the search for an antidote to HIV, Dominique Lapierre describes the extraordinary lengths to which many of the subjects went in order to circumvent the researchers' restrictions (which included suspending all other medication while accepting an unknown tablet that may have been nothing more than a placebo). Trying to persuade the subjects to stick with what they were getting presented the research team with numerous dilemmas. The trial was abandoned in September the same year, when it was clear that the subjects could not be relied upon to abide by the usual clinical controls. In the wake of the experiment, the US Food & Drug Administration had to decide whether on the basis of the evidence to approve AZT - essentially an untried drug - for general distribution. This, too, was a difficult ethical decision. Under considerable political pressure, the FDA decided to take the risk. There is now evidence that AZT may be both ineffective and toxic.
c.f. Lapierre, D.: *Beyond Love*, Arrow Books, London, 1991.

model. It should be noted, however, that most of them would tell against the success of the *experimental* rather than the *control* group. Any success in the former would surely be in spite of, not because of, these factors. The Molteno courses would be of little value anywhere in southern Africa if they failed under circumstances which represented the reality of education throughout the subcontinent. Therefore, it was felt that the research model should be pursued and that no allowances should be made for the particular difficulties which this would create for the experimental schools.

1.2 The Effect of Variables

It was realised from the start that not all the variables could be identified, much less controlled. This is a perennial problem in educational - indeed, all social - research. In the words of Chu & Schramm (1967:98; original emphasis),

Complex behaviour has baffled learning theorists for years. A number of variables are clearly at work... In many cases these variables interact, and the total must be a great deal more complex than can be represented by the one-variable experiments that typically make up the research literature, no matter how clean and skilful they are.

A good experiment of this kind that varies one characteristic against one or two others is highly useful, but its results must always be stated other things being equal. As we know from bitter experience, other things are not always equal.

Brumfit (1984:18) identifies numerous variables relating to the local situation, the pupils and the teachers which may be at play in classroom-based research. These include:

- size of classes
- quantity and intensity of instruction
- amount of administrative support offered to the teacher
- physical resources available to the teacher
- teacher's and pupils' attitudes to the subject
- teacher's and pupils' aptitudes for the subject
- nature of teacher's and pupils' previous experience of language education

Harris (1972:552) notes:

Research has shown that teachers in the same community, using the same reading materials and supposedly the same methodology with similar pupils can come out with widely varying class results.

Kroes (1989:2) refers to the problem of variables in his report on the HSRC evaluation of nine EFL courses in Black schools:

Ostensibly the most direct route to such a ranking [of courses] is a pretest-posttest design. This was not feasible, however: with as few as three pupil variables, given eight courses and three standards, and using as few as 30 pupils per experimental group, such a design would require a population of 19 440 testees - and the ability to control all the variables!

The objectives of this research, however, were much simpler: to compare just two groups of pupils. Chall (1970:52), quoted earlier, points out that in such cases and with large samples the variables may cancel out:

In interpreting the test results of a class or school, the "best" and

"worst" performances may balance out, and the average scores may represent the group's actual performance. (Original emphasis)

If this is true of classes or schools, how much more so of the large groups of schools amongst which this research was to be conducted.

There were other factors mitigating the effect of the variables:

- i) Groups of schools were selected for their *overall* comparability, e.g. in both control and experimental groups there was a mix of urban, peri-urban and rural schools, and a mix of well-resourced and poorly-resourced schools.
- ii) To preclude any favouritism on the part of the researcher, most of the schools for testing were selected by an impartial official of the local education authority on the basis of the above criteria. The researcher picked the remainder at random from a list of schools in each circuit. A complication to this formula was that, owing to the staggered implementation of Molteno courses in the three target circuits and to changes in the boundaries of circuits in mid-project, several of the 1990 and 1991 control schools became experimental schools in 1992 and 1993. Here again, though, the effect was to homogenize the two groups, and no advantage accrued to the experimental group.
- iii) Teachers in both control and experimental schools were almost all products of the same teacher-training course (the Primary Teacher's Certificate or the Primary Teacher's Diploma) in the same college (Mgwenya College of Education, Kangwane). This was a powerful homogenizing factor in terms of both classroom practice and school management.
- iv) The schoolgoing population was, compared to many South African schools, ethnically homogeneous (Swazi), thereby reducing the variability of cultural influences on classroom dynamics.

So large-scale testing under these conditions could still serve:

- i) to reduce the statistical significance of the variables amongst the testees, thus providing a basis for comparison between groups of pupils on various courses;
- ii) to establish benchmarks of average proficiencies against which individual performances could be measured;
- iii) to provide comparative data on cohorts of pupils for use by local authorities in educational planning and management.

1.3 The Testbed

Kangwane was chosen as the principal site for testing. In 1990, the Project began a four-year implementation of its courses in three of the six circuits in Kangwane. At the time of writing this thesis, a total of 126 schools (1100 classes, 50 000 pupils) were involved in this project. The remaining circuits, comprising another 126 schools, continue to use other language courses.

This seemed to offer a unique opportunity for both comparative testing and tracer studies of selected cohorts.

It was also believed (incorrectly, as it turned out) that the territory had a low rate of demographic change which would enable cohorts of pupils to be more easily monitored over the four-year period of the testing programme.

Testing was conducted over four years on a total of 6 379 pupils in 66 schools spread across five Kangwane circuits, and a few schools from other territories. The breakdown of Project (i.e. experimental) and non-Project (i.e. control) schools, by

categories was as follows:

CIRCUIT	SCHOOLS	TYPE
Kangwane, Project	1 - 16	Experimental
Kangwane, non-Project	17 - 41	Control
Other, Project	42 - 61	N/A
Other, non-Project	62 - 66	N/A

Table 1: Number of Schools & Distribution by Type

The "Other, Project" schools were mine schools for black children in the Transvaal, OFS and Botswana which make use of Molteno Project courses. These schools, though better resourced and managed than most state schools, are staffed entirely by state-trained black teachers for whom English is a foreign language. The "Other, non-Project" schools were private schools for black children entirely staffed by white teachers who are either mother-tongue speakers of English or have near-mother-tongue competence in English.

Testing was usually conducted at the Other Project and Other non-Project schools at the request of their principals or managers, who wished to see how their standards compared with other schools. In a few cases, the researcher requested permission to test at these schools in order to establish some benchmarks of pupils' performance in non-standard types of school which are becoming more common in South Africa. It should be noted that such schools are not really comparable with state schools and therefore data yielded by them, though interesting in many respects, cannot be used as a fair basis for comparison with any Kangwane schools.

Owing to the exigencies of the times - including strikes by teachers and/or pupils, riots and various other local upheavals - testing could not be conducted in the same

Kangwane schools every year. This problem was less pronounced in the experimental than in the control schools: two-thirds of the former but only half of the latter were tested every year. Implementation of Molteno courses in one of the Kangwane circuits never really got off the ground as the teachers, who were on strike at the time, did not attend requisite training. These schools were dropped from the experimental group. In her qualitative evaluation report, Rea-Dickins (1994:90) also mentions this failure. New schools to replace those in which testing could not be conducted in any given year were randomly selected. Outside Kangwane, the same schools could be tested in consecutive years. Financial constraints also limited the amount of testing that could be conducted each year. As a result of the interplay of these two factors, the numbers of schools tested each year were as follows:

	Kangwane		Other	
	Exper.	Control	Exper.	Control
1990	12	6	-	-
1991	10	9	10	2
1992	11	9	14	5
1994	9	8	-	-

Table 2: Number of Schools Tested Yearly

Following the research plan, in November 1990, the first year of testing, SSA pupils were tested in their mother-tongue (SiSwati). At the end of the second year, 1991, SSA and SSB pupils were tested, the former in SiSwati and the latter in English. At the end of the third year, 1992, SSA pupils were again tested in SiSwati and SSB and Std 1 pupils were tested in English. Testing scheduled for late

1993 had to be postponed to early 1994 owing to disruptions in schools².

2. THE INSTRUMENTS

2.1 Available Tests

Before the decision was taken to construct tests specifically for this research, a review of existing tests was undertaken to establish whether any of them could serve the purpose.

No standardized test of mother-tongue reading proficiency at junior primary level could be found. No suitable standardized test of EFL reading proficiency at junior primary level could be found.

It was found that such standardised tests for the assessment of language proficiency as are currently available in South Africa (e.g. the HSRC's Scholastic Achievement Tests For ESL and Initial Evaluation Tests in English) have numerous drawbacks. Principally, these are:

- i) Their being pitched at the level of Std 1 and above. This research had to look at English in SSB as well.
- ii) Their focus on the language prescribed by departmental syllabuses for a given standard rather than on the actual demands made on the pupils' language skills by the classroom situation; the HSRC's Initial Evaluation Test in English, for example, is heavily based on grammar-translation type tasks such as correcting spelling and concord in series of unrelated sentences.

² In that year, a Molteno Project research officer had a narrow escape when a mob attacked the school at which he was conducting a seminar with a group of teachers. He was hidden by the teachers and escaped without injury. All training in that circuit was discontinued for the rest of the year.

- ii) Their failure to test reading skills in sufficient depth for valid conclusions to be drawn about the relative efficiency of different reading schemes used by teachers;
- iii) Their general unsuitability for the junior-primary pupil in terms of technical aspects such as the language level being tested, the volume of text they comprise and the complexity of their rubrics, which are often more difficult to read and understand than the test-items themselves³.

This judgment accords with that of Kroes & Walker (1988:101) in the wake of their 1985 search for a Std 2 or 3 level test for use in the HSRC evaluation:

No suitable test of English proficiency could be found.

But the passage of time had at least brought new options. One was the HSRC's more recent Performance Test: Reading Comprehension, English Second language, Elementary Level (published 1992). This test represents a considerable advance over its predecessors in that it incorporates a number of integrative and communicative items. Its great variety of texts and tasks makes it a more interesting and a more searching test, and with forty questions it is certainly long

³ The HSRC's Scholastic Achievement Tests For English Second Language are full of examples of this. For instance, the first question in the Std 1 test reads as follows:

*In each of the following items there is one word that is wrongly spelt among the words underlined.
Draw a neat circle around the letter above the word underlined that is wrong in every group of four:*

A B C D

6. The rugby players like to play a ruf game.

This researcher would submit that, if the testees can understand just the rubric of the question, they do not need the test.

enough to produce meaningful results. Like all HSRC tests, it has been subjected to rigorous statistical analysis (evidence of the psychometric perspective) and comes complete with a set of tables showing standard errors of measurement (SEM) and of difference (SED) between two scores, percentile ranks, standard percentages, and stanines for Stds 2, 3 and 4 for both first and second language groups. In the tester's manual, the authors claim a reliability coefficient of 0,85 to 0,88 (KR-20) for the test in all Standards.

In terms of its **content validity**, the manual (p18) states that

The items for this test were accepted by a committee of subject experts, after a specification table had been drawn up and a thorough study had been made of the suitability of the items to test reading comprehension.

No other type of validity is referred to.

Closer examination of this test, parts of which are reproduced as **Appendix A**, raised serious doubts in the mind of the researcher:

- i) **It is entirely Eurocentric.** The texts are firmly rooted in Western European culture, featuring poems by Ogden Nash and Clarence Booth, articles on Roman mythology and engineering, an article on one of the wonders of classical Greece (which, personified, speaks to the reader in the first person), and a news report on a California mudslide. The illustrations of people show a white girl and a white boy in very European, middle-class surroundings, and a pair of twins in Victorian clown outfits, bearing roses. There is just one African item (on the hyena) and one universal (a version of Aesop's fable of the fox and the stork).
- ii) **Apart from this cultural bias in the type of text and illustrations used, the topics are far removed from the world of the African child.** In addition to the

examples in (i) above, the test includes items on the workings of cameras ("The Invented Eye"), microbes, Egyptian mummies and the World Trade Centre in New York.

- iii) The language of the items is too difficult and is inappropriate for African pupils (c.f. Lanham, 1986 & 1990, and Langhan, 1990). Examples of unsupported vocabulary which young African children are unlikely to have encountered are: *appointment* (Q1), *cancellation* (Q1), *consulting* (a doctor) (Q2), *citrus* (Q3), *poultry* (Q4), *customary dwelling place* (Q8), *infirm* (Q10), *arch bridges* (Q14), and *express elevators, escalators and promenade* (Q22). A single text, a four-line excerpt from a children's magazine, provides two good examples of sentences built upon misplaced assumptions of background knowledge and the use of unusual syntax and punctuation: *Light rays travel in straight lines from sources such as the sun, etc., and, Whatever the light has bounced off - that's the picture you see.* In fact, there is hardly a question that does not make unfair demands on the young African learner.
- iv) The lead-in instructions to testees are far too long and complicated and the standardized answer-sheet (also reproduced in *Appendix A*) is almost incomprehensible.

It seemed to the researcher that this test was inappropriate for black primary pupils. It is a test - probably a good one - for white, urban, middle-class, Afrikaans-speaking children. This is further indicated by the test manual's statement (p11, par 2.3.3) that the test was normed upon:

stratified samples of the Standard 2, 3 and 4 English Second language school population in the provincial education departments of the RSA.
(Emphasis added)

Presumably, this would exclude DET and homeland schools, i.e. all black pupils.

Admittedly, this was a theoretical and subjective appraisal. There was a case to be made for trying out the test as a source of concurrent validity data from the topmost standard (Std 2) examined by this research. This was duly done and the results are described in Chapter Five, Section 1.3.

For the same reason, two other local tests needed to be looked at. The Threshold team (Macdonald, 1990) had made use of cloze and C-tests in their research. The C-test is a recent variant on the cloze in which, instead of omitting every n th word, the tester omits only certain letters (usually the last few) of every n th word. Thus, the testee has more contextual support. But MacDonald's comments on the experience, already quoted in Chapter Three, Section 5.3, were discouraging enough. Walker, on the other hand, is more sanguine. In the HSRC report (Kroes & Walker, 1988:102), he explains his use of a C-test:

Klein Braley (1985) finds an answer to the practical and other problems associated with discrete-point testing in tests of reduced redundancy. Though the three conventional types of reduced redundancy tests (noise tests, dictation tests and cloze tests) have certain problems of validity or viability, the underlying theory remains convincing... A fourth type of test, the C-test, developed at the University of Duisberg (Klein-Braley 1985) as a better operationalisation of the theory of reduced redundancy, was settled upon, adapted and administered.

Two excerpts from Std 3 history textbooks were used as the basis for the test. It is reproduced as **Appendix B**.

With this test, too, this researcher had reservations. Walker designed his C-test for use along with a dictation exercise as a test of general English proficiency. Is a C-test on its own suitable as a test of reading? It has already been argued in Chapter

Three, Section 5.3 that it may not be. Once again, though, it seemed worth trying the test out on some Std 2 classes as a possible source of concurrent validity data. This was done and the results are described in Chapter Five, Section 1.2.

A British test battery, the 1992 Standard Assessment Task (Reading & Spelling) for Key Stage 1, was also considered. Though essentially a first language test, it has been used, in conjunction with a special observation schedule, by British teachers on EFL pupils in their classes. However, it proved unsuitable by virtue of its overwhelming first-language content, its Eurocentricity and its complexity of administration (parts of it were designed to be administered to pupils one at a time).

The absence of suitable tests for this research was no great surprise. Even in America Chall (1970:57) had found that most of the published standardized reading tests, particularly at primary level, were inadequate. There was no choice, then, but to start constructing tests from scratch.

2.2 Constructing New Tests

2.2.1 Guiding Principles

In a personal communication to this researcher (16 March 94), Walker recalled that the development of Std 2 and 3 tests for the HSRC evaluation was considered daring because so little work had been done with very young pupils. This research, dealing with younger pupils still, was even more of a leap in dark.

It was clear from the start that any tests which purported to be communicative would have to depart from both standard texts and standard tasks. Immediately, this posed problems for the researcher:

- Would testees who had never previously been exposed to

communicative reading tasks be stumbled by the *type of task* itself?

- Would the test therefore unjustly mask such pupils' real reading ability while giving other pupils - who had had some exposure to communicative reading activities a correspondingly unfair advantage?

In an attempt to solve these problems, the tests were constructed with five points in mind:

- i) Except at the Std 2 level, only narrative text would be used. Since all the pupils to be tested would have had exposure to written narratives, no particular group would be able to gain any advantage from the text itself.
- ii) The tasks involved in each test item would be valid in terms of what appear to be the real-life demands of the classroom. They would involve only such cognitive skills as are normally assumed to be present in pupils of that age. These assumptions are inherent in curriculum, syllabus and textbook design. Underlying as many school activities as they do, they form part of the demands of the pupils' real world. Reading tasks which invoke these skills may therefore be considered authentic tasks.
- iii) To increase the pupils' familiarity with the types of task, the tasks would resemble as closely as possible exercises that form part of the School Readiness programmes prescribed for the first quarter of the first year of school. Although different programmes are in use in the various regions of the country, there is a fairly high degree of similarity in the type of activities they comprise. Virtually every pupil has been exposed to these programmes.

- iv) **The test items would be constructed mainly from vocabulary common to the three English courses in use in the target schools.**
- v) **The principle of communicative activities would be a guide rather than an absolute rule. The lower one goes in second-language reading-age and -level, the less important strictly communicative activities become, since the very young reader is naturally at an early stage of reading development in which the mechanics of decoding text take up so much of his time and attention as to partially preclude top-down reading processes.**

2.2.2 Sources of Texts

In order to develop a bank of authentic texts, four sources were gleaned:

- i) **original writing by pupils of the same level as the testees;**
- ii) **prescribed readers which were considered to be reasonably free from the failings described by Lanham (1990) and Langan (1990);**
- iii) **simple texts devised by the researcher.**
- iv) **printed matter that the pupils were likely to be exposed to in everyday life, such as adverts, labels, wrappers and popular comics.**

Material extracted from each of these sources required some modification in order to eliminate the more obvious cognitive and linguistic obstacles. In the end, the material from the last-named source, everyday life, proved to be the least useful as the visual literacy of young pupils was insufficiently developed to cope with the artistic and literary conventions of comic and poster art. It would appear that pupils of this age generally do not actually *read* such material but only *look at* it. This

observation from experience accords with Macdonald's (1990:29) finding from tests with expository texts that:

Generally children:

1. *did not read headings, labels or captions;*
2. *did not look at pictures;...*

Pupils' writings too posed many difficulties as:

- i) They typically lack coherence, consisting usually of unrelated statements comprising a single grammatical structure. e.g. "I see a ...".
- ii) They often comprise imperfect replications of simple sentences encountered in prescribed readers. ("Here is a..." or "This is a..." without a picture; "Benny has a...", etc.).
- iii) They tend to be idiosyncratic and inconsistent in their schematic demands (e.g. references to unknown persons - probably family members - and relationships).
- iv) The better examples almost invariably came from Molteno Project pupils, thereby raising the problem - if they were used - of testing to a course; this problem was particularly pronounced in SSA.

2.2.3 Devising Tasks

The tasks were intended to invoke *simultaneously* as many reading sub-skills as

possible. In no particular order, these included:

- Understanding the communicative function of sentences;
- Transferring information from one medium to another;
- Discerning both explicit and implicit information;
- Comparing information from different sources;
- Separating essential from non-essential material;
- Understanding relations between the whole text and parts thereof;
- Understanding relations between constituent parts of the text;
- Recognising discourse markers and their function;
- Skimming to get the overall gist of the text;
- Scanning for specific information;
- Deducing the meaning and use of unfamiliar lexical items from contextual clues;
- Maintaining sufficient reading-momentum for comprehension.

Accepting the hypothesis that reading is a holistic process, the Molteno tests sought to present each testee with a range of tasks which, in Alderson's (1990) words, would involve

the simultaneous and variable use of differing and overlapping skills.

Since the objective was to test *what* the reader understood rather than *how* he came to that understanding, a sufficiently varied set of texts and tasks would serve this end.

The tasks, again in no particular order, included:

- matching words in sets of minimal pairs;
- matching sentences with minimal differences;
- choosing the odd phoneme out of sets of homophones;
- matching the two halves of broken sentences;

- matching sentences and pictures;
- matching pictures and numbers;
- comparing and contrasting sentences and pictures;
- organising jumbled sentences and paragraphs in the correct order;
- cloze exercises;
- putting words in alphabetical order;
- completing unfinished sentences and paragraphs according to discourse markers;
- answering factual discrimination questions on pictures: "yes", "no" or "I don't know";
- matching dialogue to pictures;
- grammatical transformation drills;
- matching stimulus and response utterances;
- completing logical inferences;
- selecting correct phrases and clauses for a story from multiple options;
- discarding irrelevancies from texts;
- inserting punctuation;
- supplying missing connectives in sentences;
- summarising a story with sentences selected from a multiple option list.

Given the number of task-types available and that there are infinite variations on their themes, it was clearly impossible to test each pupil on all of them. Moreover, an early but predictable discovery was that the children's concentration-span is very limited: a maximum of ten minutes on a single item and forty minutes in total. It was necessary, then, to construct a number of short tests comprising dissimilar tasks. Each year, two or three different tests were administered to experimental and control groups.

2.2.4 Trialling

Test-items were usually trialled on not fewer than 30 testees, equally representing

pupils from Molteno Project and non-Project schools, before being selected or rejected for use as part of a test. Each test consisted of three (SSA) or four (SSB and Std 1) items comprising dissimilar tasks rated at three different levels of difficulty. The tests were trialled on about 60 testees, again equally composed of Project and non-Project pupils. Final modifications were made in the light of these trials and a battery of tests finally arrived at. Trial groups and final test groups were kept separate to preclude the possibility of teachers or pupils previewing the test-items.

The full set of Siswati and English test items are reproduced as *Appendix C* and *Appendix D* respectively.

In their final versions, the tests comprised the following items:

TEST	ITEM NUMBERS
<u>SSA</u> (SiSwati)	
Test 1	2, 4, 6
Test 2	1, 3, 5
<u>SSB</u> (English)	
Test 1	2, 3, 5, 8
Test 2	1, 4, 6, 7
<u>Std 1</u> (English)	
Test 1	12, 16, 21, 27
Test 2	28, 12, 20, 22
Test 3	19, 11, 27, 29
<u>Std 2</u> (SiSwati)*	2, 4, 6

Table 3: Composition of Tests

- * Note: The Std 2 Siswati test was the same as the SSA SiSwati test which this cohort of pupils had written three years previously. Thus, their progress beyond an established benchmark could be measured.

3. TESTING PROCEDURES

3.1 Timing

In 1990, 1991 and 1992 the tests were trialled in October and administered in full in November - that is, as close to the end of the school year as possible - in order to determine benchmarks of reading development for each year of school. This timing posed problems owing to the acute disruption in schools at that time of year. With the support of local officials, the testing in those years was accomplished more or less as planned. However, owing to factors beyond the researcher's control, the testing scheduled for late 1993 had to be moved to March-April 1994.

In order to minimize the effect of pupil fatigue on the scores (bearing in mind that most of the testees were very young), all the tests were administered between 09h00 and 12h00.

3.2 Selecting Representative Samples of Pupils

In each school where testing was to take place, representative samples of 30 pupils were extracted from the full complement of pupils in the target standard by one of two devices:

- choosing every n th name from alphabetical class lists

- lining up all the pupils in the target standard from shortest to tallest and pulling out every n th child

Equal numbers of boys and girls were maintained. No grossly over- or under-aged pupils were included in test groups. An age-range of three years in a group was considered acceptable provided most of the testees were the right age for the standard.

Although teachers were informed in advance of the dates of the testers' arrival, perusal of registers in each school suggested that no attempts had been made to "stack the deck" by dismissing weak pupils. In this, our experience differed from Walker's, who arrived at a school just in time to see weaker pupils being shooed out of the class to be tested (Walker, pers. comm., 4 November 1994).

3.3 Issuing Instructions

Instructions for mother-tongue tests were given entirely in that language. Instructions for the English tests were given almost entirely in English, though a few departures from this were allowed when errors or ambiguities were detected in the rubrics. A major problem was whether to give the full set of oral instructions at the outset of the test and then let the testees sink or swim, or to let the testees do one item at a time, with breaks in between for further instruction and guidance. The original intention was to keep oral instructions to the minimum and to view the rubrics as part of the test. In practice, this did not work as many testees would do one or two items, then just stop: either they felt too tired to continue or, being very young, just forgot what they were supposed to do next. There were instances of even good performers being seduced from the task in hand by the temptation to colour in the pictures! Others would go over the same item again and again - whether out of a laudable desire to improve their score on that item or out of sheer boredom with the whole exercise was impossible to determine. After some experimentation, a system was adopted whereby a few global instructions were

given at the outset and item-specific instructions interspersed along the way. Each item consisted of six or seven questions. The first two were done by the tester with the testees, as examples. Thereafter the testees completed the item themselves.

The notes for testers in Siswati and English are reproduced as *Appendix E*.

3.4 Invigilation

Testing was conducted by teams of Molteno Project field-workers under the researcher's supervision and by the researcher himself. Sometimes an external adjudicator was also present, such as the Chief Subject Advisor in Kangwane and the Subject Co-ordinator in mine schools in Botswana. Teachers were not usually present during the testing. Tests were conducted in ordinary classrooms. There were usually two invigilators to a classroom.

3.5 Physical Environment

Apart from the fact that noise levels from the playground or adjacent classrooms were occasionally rather high, the environment in the classrooms was adequate to the task.

3.6 Marking

Each year, all the tests for that year were marked by a single research assistant under the guidance of this researcher, who also moderated the papers.

4. AN EVALUATION OF THE TESTS

4.1 What Was Being Evaluated?

It is worth reiterating that the tests were intended to compare the effectiveness of reading courses, not in terms of their theoretical content, but *as they were actually being implemented* in schools. Implementation comprises many elements, which cannot be isolated and assessed independently. Chall (1970:63) points out that this is a common problem in educational research:

Quite often innovation means more than the use of a new book or approach to instructing children. It mean a long series of new things, any one of which may contribute to improved learning... Multiplicity of new elements is only one of the problems of evaluating innovative programs.

In this research, the comparison was of programmes in action, not the contents of books. No attempt was made to distinguish between the effect on teacher performance of the materials themselves and the training which accompanied them. Both factors were integral to the implementation of the courses being used and the Molteno Project's experience everywhere over the past ten years has been that the implementation of its courses without training is guaranteed to fail. Such training was provided to most of the teachers in the experimental schools⁴. In some control schools, too, a certain amount of teacher-training and support was provided in the use of other course materials by the relevant purveyors. This was not monitored in the research nor factored into the results in any special way. The research looked at how the competing programmes would typically be implemented

⁴ As described in Chapter, Section 4, pp94-95, the training for a given course usually consisted of two 4½-day courses, about five months apart, with one or two classroom monitoring visits in between.

in any territory on a large scale. The researcher is satisfied that the situation in Kangwane schools represented just that.

4.2 Validity of the Tests

As noted already (see Chapter Three, Section 3.4.6.1) validity exists in various forms and cannot be statistically measured. The validity of the Molteno tests is posited on the following grounds:

- i) The **construct** and **content** validities of the tests were judged satisfactory by Prof Len Lanham and Dr Carol Macdonald in personal communications to the researcher in June 1992. In a recent personal communication (31 May 1994) Prof Lanham reiterated his view that the tests could serve as valid measures of reading attainment. The opinions of Lanham and Macdonald in particular were solicited by the researcher as they have both had recent experience of testing in black schools and had expressed interest in this research. On the point of fairness: in October 1993 a group of SSB teachers attending a workshop on testing conducted by Dr Rea-Dickins at Thames Valley University judged that the tasks involved activities familiar to all pupils from school readiness and other programmes.
- ii) Evidence of **concurrent validity** was gleaned by administering the only near-comparable tests (Walker's C-test and the HSRC Performance Test in Reading Comprehension, ESL, Elementary Level) to groups of pupils in Kangwane. On average, Molteno pupils scored higher than non-Molteno pupils on all tests, though by narrower margins on the Walker and HSRC tests. Possible reasons for this are offered in Chapter Five, Sections 1.2 and 1.3. A second procedure was to compare the rank orders of pupils from a particularly well-managed school with high professional standards as determined by their performance on the Molteno tests, the HSRC test and

their end-of-year marks. A correlation of these scores, shown in the following table, suggests that the Molteno tests produce a rank order similar to that of the school tests. This could be an indication of the tests' validity. By contrast, the HSRC test - the validity of which has already been challenged on theoretical grounds - shows low correlations with both the Molteno test results and the school marks.

Rank Orders Correlated	Index
MP Test: School marks	0,684
HSRC Test: School marks	0,294
MP Test: HSRC Test	0,480

Table 4: Correlation of Rank Orders

Further evidence of concurrent validity comes from the Rea-Dickins report (see Chapter Three, Section 3.3), which confirms by a qualitative assessment conducted in *many of the same schools* that Molteno pupils were doing better than their non-Molteno counterparts. Certain specific details noted by Rea-Dickins, such as the poor performance of Molteno classes in one of the Kangwane circuits, are also evident from the test results.

- iii) The **face** and **washback** validities (extremely important in the communicative language teaching paradigm) are established by the fact that a group of teachers in Kangwane requested that the tests be published as a source-book of teaching and testing exercises.

Other, indirect evidence of the overall validity of the Molteno tests is that their results support the findings of similar research in comparable schools. Rambau's

tests in rural schools in Venda (reviewed in Chapter Three, Section 3.3) is a case in point. Her results generally accord with those of the Molteno tests in Kangwane. The Molteno tests also produced results entirely in line with an important finding from the MacDonald (1990) and Walker (Kroes & Walker, 1988) testing research, viz the generally low standard of English proficiency in rural black schools.

Subject to confirmation of the tests' construct and content validity (she was not made aware of Lanham and Macdonald's views), Rea-Dickins' judgment (1994:78-79) upon them is that:

The Molteno tests have a potentially invaluable role to play in the monitoring of English proficiency across Kangwane...

I recommend that consideration be given to using the Molteno tests in all schools across the region.

4.3 Reliability of the Tests

Drawing on the USA experience, Strang (1970:46) complains that

Evaluations of reading programs are still seriously lacking in reliability and in valid appraisal of reading, broadly conceived.

The construction of the Molteno tests emphasized validity over reliability. In July 1993 and March 1994, all available test results were statistically analyzed in the Department of Mathematical Statistics at Rhodes University. The reliabilities of the tests were calculated using both a split-half method and the KR-20 formula, with similar results. A full statistical analysis of the tests is reproduced as **Appendix F**.

Reviewing a total of 16 Molteno and two non-Molteno tests, the KR-20 index of reliability ranges as per the following table.

<i>Year & Standard</i>	<i>KR-20</i>
1990 SSA Test 1 Test 2	N/A* N/A*
1991 SSA Test 1 Test 2	0,41 0,68
1992 SSA Test 1 Test 2	0,67 0,57
1993 SSA Test 1	0,58
1991 SSB Test 1 Test 2	0,42 0,79
1992 SSB Test 1 Test 2	0,47 0,75
1993 SSB Test 2	0,77
1992 Std 1 Test 1 Test 2 Test 3	0,81 0,56 0,67
1993 Std 1 Test 1	0,64
1993 Std 1 Siswati	0,59
Walker C-Test	0,53
HSRC Test	≈0

Table 5: Reliability of Tests

***Note:** The 1990 SSA tests were not standardised, but comprised a variety of combinations of items. This enabled the researcher to evaluate a large number of items in different permutations. A single index of reliability cannot be calculated.

From the above table, it can be seen that:

- i) The general trend at each level, year by year, is towards greater reliability.
- ii) There was usually, each year at each level, at least one test with a sufficiently high coefficient of reliability to justify some assertions being made on the basis of its results.
- iii) Two tests - the 1990 SSA and the HSRC test (for which the authors claim a KR-20 index of 0,85 on the norm group) - produced no KR-20 coefficient, on account of inconsistent results and, in the case of the HSRC test, too-low scores. The significance of this is taken up in Chapter Five, Section 1.3.

What would be an acceptable coefficient? Rea-Dickins (1994:77) would have liked to see them above 0,80. Seliger & Shohamy (1989:187) suggest that a co-efficient of 0,70 is acceptable. This researcher would argue that even that is unrealistic for this context. From his own experience in American schools, Traxler (1970:225) found that

Since many schools demand tests which can be administered within forty minutes, the number of comprehension questions used is likely to be too small for high reliability.

This was precisely the researcher's experience. Kroes & Walker (1988) do not

quote a coefficient of reliability for their test but, from the evidence, it seems that they, too, would have had to be content with a coefficient of around 0,53.

Even Rea-Dickins is not altogether unhappy with the results. In her KPLP evaluation report (1994:p76), she writes:

Although the refinement of the [Molteno] tests themselves in terms of their reliability and validity should have been more rigorous in the early stages of the testing project, the statistics computed in March 1994 provide evidence that these tests show promise as reliable measures of reading achievement.

And, offering some useful direction for future refinements, she concludes:

The demonstrated estimates of reliability... are high enough to suggest that removal of certain items (on the basis of item statistics) should in fact produce the desirable levels of reliability. (p78)

4.4 Authenticity of the Tests

Spolsky (1985:39) puts great emphasis on authenticity:

Lack of authenticity in the material used in a test raises issues about the generalizability of results.

Bachman (1990:301-3) defines authenticity as the degree to which the demands of the test reflect the demands of real life. This so-called "real-life approach" has been prominent in testing for the past ten years. Its main characteristics are:

- i) A view of language ability, or proficiency, as pragmatic ascription.

- ii) Reference to real life performance as the touchstone of all assessments.
- iii) The belief that face validity, content relevance and (where possible) predictive value are the principal criteria for judging tests.

Some experts (for example Klein-Braley, 1985; Spolsky, 1985; Bakér, 1989) see an inherent contradiction in the real life approach, namely that testing is by definition inauthentic. In Spolsky's (1985:36) words:

We are forced to the conclusion that testing is not authentic language behaviour, that examination questions are not real, however much like real-life questions they seem.

Baker (1989:83) bluntly agrees:

The first thing which needs to be made clear is that any activity which takes place for the purposes of assessment is, by necessity, inauthentic. The call for authenticity in language testing tasks is therefore futile.

But Morrow (1981b), Alderson (1981), Bachman (1990) and others counter this argument by pointing out that language tests have an authenticity of their own. To quote Alderson (1981:48);

The authenticity argument... seems to assume that the domains of language teaching and language testing do not have their own set of specifications for language use which are distinct from the specifications of other domains. Thus "What is this?" - "It's a pencil" is authentic language teaching language, and so on. If one does not

accept this, then authentic tasks are in principle impossible in a language testing situation, and communicative language testing is in principle impossible.

This is not just fancy footwork to sidestep a difficult issue. Bachman (1990) holds that if a test generates communicative interaction between the testee and the test task, then it is an authentic exercise in as much as it is doing to the testee precisely what real life does in any other domain. Thus, says Bachman (1990:317),

Test authenticity becomes essentially synonymous with what we consider communicative language use, or the negotiation of meaning.

Widdowson (1978:80-89) identifies three types of textual material in terms of their usefulness to communicative language teaching and testing:

- i) Extracts from authentic texts.
- ii) Simplified versions, i.e. extracts rewritten by the tester to accommodate the constraints of the testees' language proficiency.
- iii) Simple accounts, i.e. texts written specifically by the tester with the testees in mind.

There is clearly a hierarchy of authenticity here. Extracts are most authentic in that they were not written specifically for the test, even though excerpting them from their original context does reduce their authenticity to some extent. By the same token, simple accounts are least authentic - may not be authentic at all, unless they very closely approximate the kind of language the testees encounter in other instructional texts which they use. Widdowson makes an important point here: all pedagogy involves simplification, whether of concepts or of language, in order to

lead the learner from the known to the unknown. Controlled use of language to this end is perfectly authentic language use. Therefore, even simple accounts written for a test may constitute authentic textual material. Hopefully, this was the case with the Molteno tests.

In order to enhance the communicative value of the text, Widdowson (1978:91) recommends the simultaneous use of two sources of information to the testee: a linguistic source, in the form of a set of sentences, and a non-linguistic source, in the form of a diagrammatic representation. This technique was repeatedly used in these tests.

The researcher also believes that three of the sources of texts used in the test - pupils' writing, realia and existing school texts - lend considerable authenticity to the tests.

Is an exam situation itself "authentic" for such young children? This researcher would answer: Yes, because pupils are expected in Std 2 to learn from textbooks which are context-embedded and cognitively demanding, often in situations where there is no hope of outside assistance, e.g. when doing homework and writing class tests.

4.5 Caveat

While the researcher believes that a consistent effort was made to render the tests valid, reliable, authentic and fair, on reflection it is clear even to him that there is still much room for improvement. The constructive advice and criticism offered by Lanham, Macdonald, Rea-Dickins and others was in some respects insufficiently heeded in the construction of the tests.

Again, it must be acknowledged that the difficulties presented by the research model, as outlined in Section 1 above, were not always resolved. The results of

this research should be interpreted with these points in mind.

5. SOME ETHICAL CONSIDERATIONS

All research must be governed by a code of ethics. This is especially true of research involving humans, particularly children. The guiding principle, first and foremost, is that *the research must do no harm*.

From this axiom, Seliger & Shohamy (1989:196) unpack the following guidelines:

- i) The researcher must protect the dignity and welfare of the participants.
- ii) The individual's freedom to decline participation must be respected.
- iii) Confidentiality of research data must be maintained.
- iv) The researcher must guard against violation or invasion of privacy.
- v) The responsibility for maintaining ethical standards remains with the researcher, who is also responsible for the actions of assistants.
- vi) Individuals should not be specifically identified with their data, unless it is necessary and they have given their consent.
- vii) The researcher should make every effort to minimize potential risk to subjects.

Every effort was made to observe these proper rules of conduct. The large numbers of testees made it impractical to try to obtain permission to test from each and

every parent. However, the researcher felt that his research was sufficiently akin to normal school activities for the principals and local education authorities to grant permission on the parents' behalf - which they did. To spare the children anxiety, the word "test" was never used in their presence. The whole exercise was presented as a fun activity: songs were sung, games were played, tests were written and sweets were distributed. The researcher is not aware of any particular stress being caused to any pupil by the testing programme. Indeed, when the testers returned to schools in the second and subsequent years of the programme, they were frequently besieged by children who wished to be selected to write a test.

Teachers were more of a problem. Despite repeated efforts to inform teachers, principals and all relevant education department officials about the nature and purpose of the testing programme, some teachers felt threatened by what they perceived to be an evaluation of their own efforts. Occasionally, this created some difficulties for the testers, who had to spend time assuaging teachers' fears. Some teachers even sought by various devices to assist the testees while a few came in to the testing room uninvited to shout at them to finish the test. The researcher does not believe this unhappy phenomenon materially affected the test results. Moreover, by far the majority of teachers and principals bore the inconveniences visited upon them by the researcher with unflagging good humour and boundless co-operation.

CHAPTER FIVE

RESULTS, CONCLUSIONS, RECOMMENDATIONS

1. RESULTS

1.1 The Molteno Tests

1.1.1 Kangwane Schools

The percentages scored by Molteno (MP) and non-Molteno (non-MP) groups in Kangwane on each of the tests were as follows (Column X = p-value calculated as for a parametric test; Column Y = p-value calculated as for a non-parametric test):

<i>Year & Standard</i>	<i>MP %</i>	<i>N</i>	<i>Non-MP %</i>	<i>N</i>	<i>KR-20</i>	<i>X</i>	<i>Y</i>
1990 SSA SiSwati							
Test 1	54,2	252	47,7	172	N/A	*	*
Test 2	40,6	252	35,8	172	N/A	*	*
1991 SSA SiSwati							
Test 1	56,7	89	47,1	32	0,41	*	-
Test 2	56,1	118	55,1	22	0,68		
1992 SSA SiSwati							
Test 1	51,7	209	34,3	95	0,67	**	**
Test 2	45,3	61	-	-	0,57	**	*

<i>Year & Standard</i>	<i>MP %</i>	<i>N</i>	<i>Non-MP %</i>	<i>N</i>	<i>KR-20</i>	<i>X</i>	<i>Y</i>
1994 SSB SiSwati							
Test 1	62,8	100	43,3	101	0,58	**	**
1991 SSB English							
Test 1	49,9	113	46,2	15	0,42	-	-
Test 2	38,1	91	40,6	30	0,79	-	-
1992 SSB English							
Test 1	31,7	173	25,8	119	0,47	**	*
Test 2	45,0	20	16,3	19	0,75	**	**
1994 Std 1 English							
Test 2	46,9	79	21,0	79	0,77	**	**
1992 Std 1 English							
Test 1	29,8	29	11,0	20	0,81	**	**
Test 2	30,0	183	22,6	133	0,56	**	**
Test 3	24,5	130	8,3	92	0,67	**	**
1994 Std 2 English							
Test 1	37,6	98	23,8	54	0,64	**	**
1994 Std 2 Siswati							
	83,4	104	68,9	98	0,59	**	**

* Significant at 5%

** Significant at 1%

Table 6: Kangwane Test Results

The purpose of these tests was to enable us to compare project with non-project pupils. Therefore, the important figures in each standard and year are not the scores themselves, but the *differences* between the scores of Molteno and non-Molteno pupils. Furthermore, scores in a single testing episode are of much less significance than trends which show over a period of two or more years (c.f 2.1.1 below).

The generally low scores are very striking. The causes and significance of this phenomenon are discussed in Section 1.1.4 and 1.4 below.

1.1.2 Other Schools

Other Molteno and Other non-Molteno groups showed the following results:

	1991 SSB Eng %	N	1992 SSB Eng %	N	1992 Std 1 Eng %	N
Other MP (mines)	74,4	125	57,7	305	57,2	270
Other MP (state)	67,3	100	53,9	52	50,2	50
Other non-MP (private)	76,8	44	74,7	56	82,3	60
Other non-MP (state)	60	14	35,3	16	46,3	15

Table 7: *Other Schools' Results*

NB: i) Within these categories, only the scores from the state schools are comparable. The small number of testees in the non-Molteno state schools is due to the fact that this is a stream within a school which uses Molteno courses in some classes but not others.

ii) The mine-schools are staffed by state-trained black teachers and follow the

state language policy of introducing English in SSB. The private schools are staffed entirely by white, English-speaking teachers and are English-medium from Gr1/SSA. Thus, pupils in private schools are in their second year of English, in an immersion environment, in SSB.

1.1.3 A Parallel-Medium School (JCI)

A single mine school in the Western Transvaal - JCI - forms another separate category in that it has a parallel-medium curriculum with two streams in SSA. One stream uses the vernacular as medium of instruction, while learning English as a foreign language; the other stream uses English as medium of instruction and has no vernacular lessons. The vernacular stream is taught in SSA by a black teacher who uses both Breakthrough and Bridge as parallel language courses; the English stream is taught in SSA by a white, English-speaking teacher who uses only Bridge. Both teachers are very competent.

Tested on English at the end of 1993, the SSA pupils in this school scored as follows:

	1993 Eng %	N
L1-medium Stream	61,6	24
English-medium Stream	30,76	22

Table 8: Parallel-Medium School's Results

1.1.4 General Note

The tests were pitched at a fairly difficult level for two reasons. Firstly, it was hoped that challenging tests would allow the really good pupils to show their paces against the average. In fact, a number of very good pupils did thereby come to the

researcher's attention. Secondly, and more importantly, the generally low scores across the board highlight the gap between the average pupil's ability to read and the demands of the curriculum. In this respect, the tests confirm a finding of the HSRC's 1988 evaluation of EFL courses - namely, that by the end of Std 2 pupils generally do not have the minimum level of language competence required for an English medium education.

1.2 The Walker C-Test

The percentages scored by Molteno (MP) and non-Molteno (non-MP) pupils were as follows:

	<i>MP %</i>	<i>N</i>	<i>non-MP %</i>	<i>N</i>	<i>KR-20</i>	<i>X</i>	<i>Y</i>
Walker C-Test	22,5	103	18,2	76	0,52	**	**

Table 9: Results of Walker C-Test

There were a number of problems with this test:

- i) **The Problem of Spelling:** The many variations in pupils' spelling (c.f. pt 1.4.1 below) meant that the marker often had to make subjective judgements as to what the testee actually had in mind, as opposed to what he/she wrote. This made it difficult to standardize marking. African pronunciation of English, especially of vowel sounds, exacerbated the spelling problem when pupils attempted to provide near-equivalent rather than exact answers. Thus, a space requiring *they* might be filled by *the*, *thi* or *tha*. Since *the* in English would be grammatically incorrect, it was difficult for the marker to know whether to award a mark. The problem was addressed, though not really solved, by the researcher and marker arriving at an agreed list of acceptable variations in spelling. Thus, too, the test is to an extent one of

spelling/writing as well as of reading. To the researcher's knowledge, this problem is not much dealt with in the literature on cloze tests. At the elementary level, it clearly merits attention.

- ii) **The Problem of Coherence:** In as many as half the papers a testee would get isolated words in the passage correct, but clearly had no real idea of the meaning of sentences or the passage as a whole. This was evidenced by the testee's leaving most spaces blank or filling them in with words which made no sense at all. Should the testee then be given credit for those isolated correct words? In the event, this researcher gave credit even for single correct words in the passage. In doing so, he undoubtedly *skewed the distribution of results to the right*. Had he not done so, the results would have been considerably lower still - so low, in fact, that the test might well be considered meaningless.
- iii) **The Problem of the Task Itself:** None of the testees had ever come across anything like a cloze test before. In a sense, this ensured that they all tackled it from the same footing. However, against that must be weighed the fact that *the task itself was therefore totally inauthentic*. Many pupils, Molteno and non-Molteno alike (but a greater proportion of the latter), were stumbled by a *type* of task with which they were completely unfamiliar.
- v) **The Problem of Inconsistency:** Some testees started off quite strongly and then broke down completely. There are at least two possible reasons for this:
 - pupils are unable to sustain coherence when reading extended narrative text
 - pupils need more feedback when tackling unfamiliar tasks

Whatever the reason, it made for inconsistent results and to that extent raised further doubts about the validity of the test.

A point worth noting: In a personal communication to this researcher, before being informed of the results of the C-test, Prof. L.W. Lanham queried its validity on the grounds that:

- i) It is not drawn from schemata familiar to the testees - or only weakly so. The testees would only recently and passively have been exposed to the topics in the artificial context of a Standard 2 textbook which, according to Langhan (1990) would have been poorly understood.
- ii) It introduces an entirely new variable which has no serious consideration in the literature on Cloze: the ability to spell.
- iii) There are too few test items.

The results fully justified Prof. Lanham's concerns.

1.3 The HSRC Test

This multiple-choice test (which is analyzed in Chapter Four, Section 4.2.1) was first administered on 15 February 1994, using a simplified answer sheet (reproduced as *Appendix G*), to a group of 30 Std 2 pupils, comprising half the total Std 2 enrolment of a small peri-urban school in Kangwane. This happened also to be a Molteno school. During the course of the test it became clear to the researcher that the children simply could not cope. The results proved to be both exceedingly low and inconsistent. The pupils' rank order on the test showed no correlation whatever with that accorded them in the teachers' markbooks (admittedly a dubious standard). The administration of the test to a second group of pupils, from a non-Project school, with even worse results, confirmed the researcher in his opinion that the test was not working at all. This prompted the researcher to try an unorthodox experiment. He returned the next day to the first school and, selecting the remainder of the Std 2 pupils who had not yet been

exposed to the HSRC test, invited them to "play a game of patterns". The pupils were then given the standardized multiple-choice answer sheet *without the questions* and asked to circle a letter next to each number at random. In other words, they made arbitrary choices of answers. Their papers were "marked" and the scores of the three groups - Molteno "triers", "Guessers" and non-Molteno "triers" - were as follows:

	<i>MP %</i>	<i>N</i>	<i>Guessers %</i>	<i>N</i>	<i>non-MP %</i>	<i>N</i>	<i>KR-20</i>	<i>X</i>	<i>Y</i>
HSRC Test	29,8	24	28,7	21	27,1	25	≈0	-	-

Table 10: Results of HSRC Test

These results suggest to the researcher that this test is invalid for use in black primary schools, since random guessing may produce an average group score as high or higher than when pupils are actually trying to answer the test. This assumes, of course, that the "triers" were really trying, and not just guessing too. On that score the researcher has no doubts. Watching the children tackle a test which was clearly too difficult for them, the researcher was struck by the signs they gave of making every effort to cope: frowns of concentration, mouthing words silently, "finger reading" words and syllables, and so on. Children of this age try very hard indeed!

1.4 Some General Points

1.4.1 Handwriting Skills

In many schools, but especially non-Molteno schools, poor handwriting in the form of indecipherable word- and letter-formation showed up repeatedly.

This was particularly evident from Walker's C-test, but was present in all the tests. Even school names were spelled variously. The following were common errors, demonstrating poor letter and word formation and some attempts to spell phonetically:

<i>other</i>	=	<i>othai/ othe</i>
<i>grass</i>	=	<i>gras</i>
<i>together</i>	=	<i>togeth</i>
<i>large</i>	=	<i>larz, larze</i>
<i>not</i>	=	<i>noe/note</i>
<i>herd</i>	=	<i>here/ heer</i>
<i>and</i>	=	<i>ane</i>
<i>low</i>	=	<i>loo</i>
<i>not</i>	=	<i>noi</i>
<i>away</i>	=	<i>awaa/ awai/ away/ aweh</i>
<i>they</i>	=	<i>thei</i>
<i>of</i>	=	<i>or</i>
<i>place</i>	=	<i>playi</i>

From all the tests (but especially from SSA 1994), it was clear that Molteno pupils generally had neater handwriting, better letter-formation and cleaner papers than non-Molteno pupils. The latter often produced papers in which even their own names and the name of the school were clumsily written, with letters transposed or back to front (e.g. "p" written for "q", or "d" for "b", and the letters "n", "m" and "r" indistinguishable from one another). This was observed in almost half the papers from some non-Molteno schools. Molteno pupils were also more likely to write their *full* name and surname on their answer papers and to write *on* the lines. For example, a random sample of 100 answer papers, evenly divided between Molteno and non-Molteno pupils, showed that 39 of the 50 Molteno pupils wrote their full names legibly on the lines, while only 25 of the 50 non-Molteno pupils did

so. Amongst both Molteno and non-Molteno pupils, first names were commonly written more legibly than surnames, perhaps because pupils are more accustomed to using, and being known by, their first names.

These observations may dovetail with those of Rea-Dickins (1994:40), who also noticed differences between Molteno and non-Molteno pupils in the nature of their written work: 27% of Molteno pupils engaged in non-traditional tasks (such as drawing, outlining and making notes) rather than traditional tasks (such as dictation and copying from books or blackboard), as opposed to only 14% of non-Molteno pupils.

1.4.2 Pupils' Answering Styles

The pupils' responses to questions from the tester during the lead-in to a test or item within a test also showed some striking differences. Molteno pupils answered individually and quite readily; non-Molteno pupils usually chorused answers or sat in timid silence. This, too, ties in with Rea-Dickins' (1994:39) observation that there was a qualitative difference in oral work between Molteno and non-Molteno classes: she observed chorusing in only 15% of Molteno classes but in 93% of non-Molteno classes.

1.4.3 Comparability With Other Test Results

It will be noticed that the test results are, in all respects, very low. This accords with results from different tests conducted in other research. Rambau (1992), for example, registered scores of 0-36%, the distribution being heavily weighted towards the bottom. Macdonald (1990:46) refers to results derived from the HSRC's Initial Evaluation Test in English for Std 2, designed for use in DET schools. According to Macdonald, this test, which this researcher deemed unsuitable for his purposes (see Chapter Four,

Section 2.1), produced an average score of 22% *from the norm group*.

Recent research in other African countries (e.g. Sharma:1973, Mchazime:1989, Kapembwa:1990, Chikalanga:1991 and Williams:1993 & 1993b) suggests that similar patterns are to be found in those countries. All these researchers report low standards of reading proficiency in English amongst primary school pupils. Sharma, quoted in Williams (1993:1), found in Zambia that on a recognition test of forty words taken from coursebooks for grades 1, 2 and 3, only 4,5% of grade 3 pupils were able to read all the words correctly and only 7,2% of grade 3 pupils could read all the grade 1 and 2 words correctly. Williams himself administered a modified cloze test to representative samples of pupils in two urban and three rural primary schools in each of two countries, Zambia and Malawi - a total of 452 and 480 pupils respectively. In addition, an oral read-aloud test, followed by simple comprehension questions, was administered to sub-samples of 44 and 60 pupils in Zambia and Malawi respectively. Williams's findings (1993b) for English in Zambia were that:

There was inadequate comprehension of texts judged to be at their level on the part of:

- *approximately 85% of Grade 3 pupils [= Std 1 RSA]*
- *approximately 88% of Grade 4 pupils [= Std 2 RSA]*
- *approximately 74% of Grade 6 pupils [= Std 4 RSA]*

The reading ability of year 3 and year 4 pupils gives particular cause for concern. Although year 6 pupils have for the most part adequate comprehension of texts from year 3 and 4 levels, it is difficult to see how such limited ability can enable them to read to learn in other subject areas.

Williams's (1993:1) findings regarding English in the Malawi schools were almost identical. However, there was an interesting difference between Zambia and Malawi in the levels of mother tongue reading proficiency, which

were found to be weak in Zambia but adequate in Malawi. It is noteworthy that the Zambian schools were following a straight-for-English language policy while Malawi's was akin to South Africa's - mother tongue for four years, followed by a sudden transfer to English. The Malawian children at least seemed to acquire from this some proficiency in reading their own language, while Zambian children ended up reading neither the mother tongue nor English proficiently.

2. CONCLUSIONS

2.1 What Do the Test Results Indicate?

2.1.1 Trends

As may be seen from **Table 6**, the general trends within the Kangwane results are as follows:

- i) In the first year of use of implementation of Molteno Project courses, there are some differences between Molteno and non-Molteno groups (c.f. 1990 SSA and 1991 SSB scores). These differences are not always significant, probably because neither teachers nor pupils are yet accustomed to the new methodology.
- ii) In the *pupils'* second year with Molteno courses, they begin to show results ahead of non-Molteno groups - even though the *teachers* at this level (SSB) are in their first year of teaching with a Molteno course (c.f. 1991 SSB).
- iii) In the *pupils'* third year with the Molteno Project, the difference in favour of the Molteno groups is unmistakeable - again despite the *teachers'* newness to Molteno methods (c.f. 1992 Std 1).

- iv) By the same token, when *teachers* get into their second or third year of using a particular the Molteno Project course, significant group differences show in Molteno's favour (c.f. 1991 SSA & 1992 SSA).
- v) When *both teachers and pupils* are in their second year with the Molteno Project courses, Molteno pupils do better still (c.f. 1992 SSB).

In short, then, the test results indicate that Molteno pupils read better than non-Molteno pupils, in both the mother-tongue and English, and that the difference between these two groups becomes more pronounced the longer the pupils and/or their teachers use Molteno courses.¹

The incremental difference between Molteno and non-Molteno pupils seems to argue against a mere Hawthorne effect² being at work since pupils performed better in the teachers' second and subsequent years of teaching Molteno courses than in their first. It seems that, as teachers become more experienced in the use of progressive courses, they become more effective teachers in their own right.

2.1.2 Other Observations

The results also showed that:

¹ As noted earlier, all Molteno reading courses have a strong phonics base. The gradual pulling ahead of Molteno pupils detected in this research may tie in with the findings of Gurren & Hughes' research review (1965), quoted in Chapter Two, Section 2, that phonics-trained pupils usually show reading superiority over their non-phonics counterparts in grades 3 and above. Chall's research review (1967:307) also brings her to the conclusion that a strong phonics base produces reading results incrementally better than a course with reduced phonics.

² This phenomenon, first described in time-and-motion studies in industry, is the natural tendency of people to increase their efforts (and resultant productivity) whenever a change in their circumstances or environment makes them feel noticed or recognised by their supervisors.

- i) **There were vast differences between schools in both mother tongue and EFL reading competence.** The average score per school ranged from 10% to 80% for both the mother-tongue (Siswati) and EFL tests. This was strong statistical evidence of the enormous variations in performance reported by some qualitative researchers (e.g. Peacock:1992 and Rea-Dickins:1994).
- ii) **There were non-Molteno schools where, at the end of the first grade, pupils could not read at all.** They could not even recognise their own names in print. Many pupils in such schools, on being shown the tester's name on the chalkboard and asked in the mother-tongue to write their own names on their papers, copied the tester's name imperfectly. In only one school using the Molteno Project's course, Breakthrough To Literacy, were pupils found to be so completely illiterate, whereas numbers of such pupils were found at most non-Project schools. This is really a qualitative difference in performance which cannot be adequately represented by statistics.
- iii) **Pupils who had been taught by means of Molteno courses showed greater willingness to tackle problem-solving tasks than those who have not.** Testers observed that the former almost invariably *attempted* test-items on their own while the latter were, in many cases, unable to do anything without an adult to guide them. This again is something that cannot be meaningfully expressed in statistics.
- iv) **The visual literacy of both Molteno and non-Molteno pupils was found to be generally very poor.** Pupils often coped better with apparently more difficult items consisting of text only than with easier items based on combinations of pictures and text. Previous work had hinted at this but the testing brought it into sharp focus.
- v) **Many teachers in both Molteno and non-Molteno schools proved to be poor readers.** Particularly in remote, rural areas, many of the teachers, when invited to try the tests, were clearly out of their depth. This also reinforced

previous research (e.g. Prentice, n.d. and Rodseth, 1978).

- vi) The best Molteno schools (in which all the teachers were second language speakers of English) produced average scores as high as, and in some cases higher than, non-Molteno schools staffed entirely by teachers who were first-language English speakers. This would seem to support the theory that pupils who have been taught by teachers using task-centred, problem-solving methods fare better than those whose teachers can model the target language more accurately, but who use transmission methods of teaching.
- vii) A longitudinal reading of the results for the first cohort - Siswati SSA 1990 and Std 2 1994 - suggests that the Molteno pupils improve their mother tongue reading competence by a far greater margin than non-Molteno pupils. Two possible conclusions might be drawn from this, both of which are compatible with Molteno theories:
 - Breakthrough provides a stronger base for continued mother-tongue acquisition and enliteration than the traditional methods currently in use in non-Project classes;
 - This phenomenon is evidence of Cummins & Swain's (1986) theory of a common underlying proficiency between first and second languages; as the Molteno Project pupils progressed farther and faster with English than their non-Molteno counterparts, so too in its wake did their mother-tongue reading competence.

2.2 The Myth of English Medium Instruction

The pupils' generally low scores on the Molteno Project, HSRC and Walker tests show the huge gap that exists between the pupils' ability to read and the demands of the curriculum. In this respect, the tests confirm the finding of the Threshold

Project (Van Rooyen, 1990) that, by the end of Std 2, pupils are not equipped for an English medium education. Yet, several of the schools involved in the testing *have opted to become English-medium schools*. The researcher found no evidence that teachers in these schools were aware of the implications of that decision or were trying to prepare their pupils for an additional load of learning.

It will be recalled that the Walker C-test was based upon two extracts from Std 3 textbooks. On this test Std 2 pupils in Kangwane barely averaged 20%. The significance of this becomes clearer in the light of a comment from Macdonald (1990:15-16; original emphasis):

The conventional wisdom is that unless subjects score at least 40% on a cloze test for a text, this text is not suitable for the child to learn from, even with the help of the teacher. If this is indeed the case, then we have reason to be concerned about the children's ability to use their textbooks adequately, even with the aid of their teacher.

In March 1994 a KwaZulu Subject Advisor voiced a popular opinion when she told delegates to a teachers' workshop which this researcher attended that

Black schools use the same core curriculum as white schools and should therefore have the same books.

Such a *cri de coeur* is understandable in terms of the need for equity in state education systems, but it is unrealistic. The facts revealed by Lanham (1986 & 1990), Langan (1990), Macdonald (1990) and by this research suggest that the money required to buy these books would be better spent on upgrading the standard of language teaching and on writing more accessible books.

2.3 A Theory of Transitional Competence

Rea-Dickins (1994) found large disparities in the extent to which teachers in Kangwane were able to cope with the methodological innovations of Molteno Project courses. This is borne out by the test results in which scores range greatly at all levels among Project and non-Project schools. The question must be asked: Why do some teachers cope well with innovation when others do not? Apart from individual personality strengths and weaknesses, many factors are at work both within the teacher and the system.

Beeby's (1969:38) description of the stages of growth of a primary school system (reproduced overleaf) provides useful insights into systemic restraints on methodological innovation.

In terms of Beeby's model, black primary education in South Africa is mainly situated within the Formalism stage, with perhaps one foot reaching tentatively into the Transitional stage and a long tail dragging behind in the Dame School paradigm. The essential characteristics of a Stage 1 or 2 system, as described by Beeby, would obviously tend to be inimical to innovation, and this may partially explain the phenomenon of recidivism which is so prevalent amongst teachers: they keep going back to bad old habits.

It is also true that changes in South African education systems are usually initiated in a top-down, power-coercive manner. This is how innovation in language teaching - in the form of Molteno courses - was introduced to Kangwane. The courses were simply prescribed for particular circuits by the local education authority without the affected teachers having any real say in the decision. This is not conducive to wholehearted support from the teachers for the new courses.

Looking more closely at the individual teacher's enforced encounter with methodological innovation, one perceives that she is often torn between several conflicting motivations - including a desire to appease authority, a resistance to

diktats, curiosity, fear of the unknown, an urge towards self-development, lack of self-confidence, and so on.

Stage	Teachers	Characteristics
1. Dame School	Ill-educated, untrained	Unorganised, relatively meaningless symbols; very narrow subject content - three R's; very low standards; memorisation all-important.
2. Formalism	Ill-educated, trained	Highly organised; symbols with limited meaning; rigid syllabus; emphasis on three R's; rigid methods - 'one best way'; one textbook; external examinations; inspection stressed; discipline tight and external; memorisation heavily stressed; emotional life largely ignored.
3. Transition	Better-educated	Roughly same goals as Stage 2, but more efficiently achieved; more emphasis on meaning, but still rather 'thin' and formal; syllabus and textbooks less restrictive, but teachers hesitate to use greater freedom; final leaving examination often restricts experimentation; little in classroom to cater for emotional and creative life of child.
4. Meaning	Well-educated, well-trained	Meaning and understanding stressed; somewhat wider curricula, variety of content and methods; individual differences catered for; activity methods, problem solving, and creativity; internal tests; relaxed and positive discipline; emotional and aesthetic life, as well as intellectual; closer relations with community; better buildings and equipment essential.

Table 11: Beeby's Stages in the Growth of a Primary School System

Based on personal observation in many schools over the past five years, including that which accompanied the testing programme, this researcher suggests that teachers whose training has not equipped them to deal readily with innovation respond to it by struggling to cope on two levels: the level of **form**, or visible procedure, and the level of **substance**, or underlying principle.

The teacher's mastery of these two elements - form and substance - may be plotted against the following matrix:

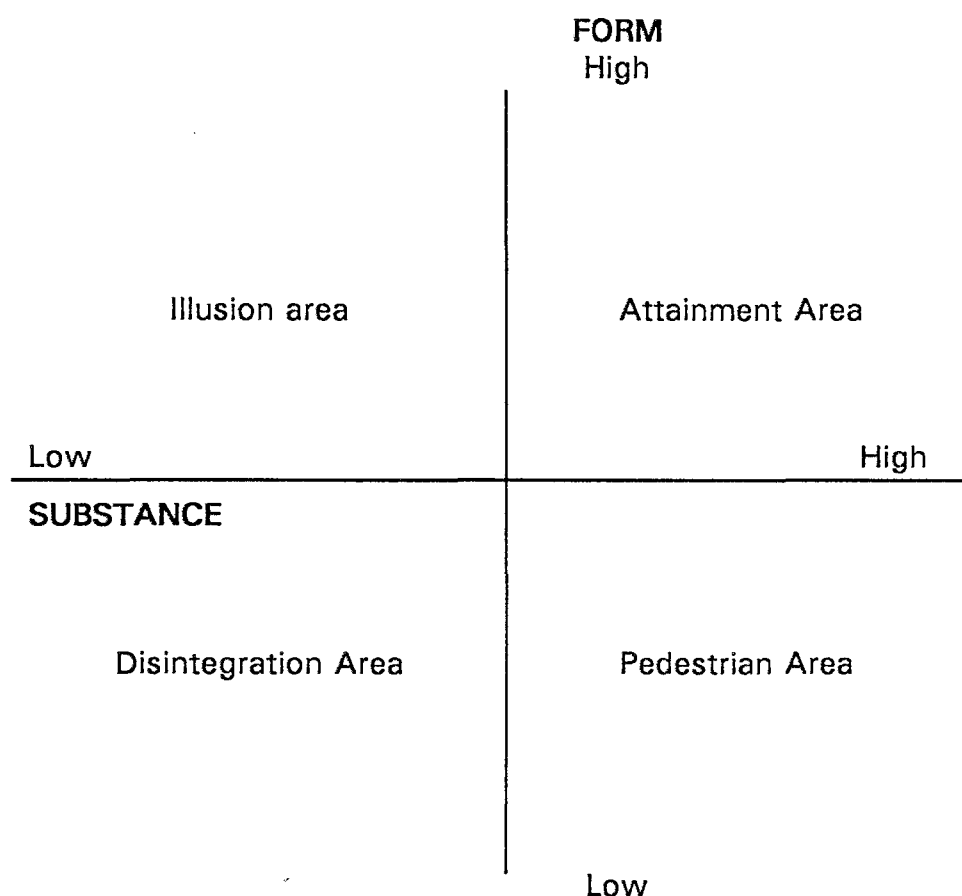


Fig 1: A Model of Transitional Competence

This diagram illustrates the following responses to imposed methodological change:

- i) **Cosmetic change:** The teacher adopts the form but not the substance of the new methodology. The result is transmission thinly disguised as learner-centredness (e.g. the teacher lectures to pupils seated in "ability groups"). This occurs in the illusion area. Some evidence of this was found by Peacock (1992:7-8) in his evaluation of Breakthrough in Botswana:

In the majority of [Breakthrough] classrooms, however, teachers were, if anything, applying the method too rigidly. The same key sentence was being used - imposed, in fact, by teachers - in all classrooms, even in different schools, in contradiction of the first principles of Breakthrough. Sentences were being repeated and learned by rote: children would often 'read' the sentence without looking, having been given the first word of the key sentence. We felt that this was not what Breakthrough methods intended to happen...

The emphasis on the method of Breakthrough rather than its principles led to the common perception by teachers that it was simply a Standard 1 package [= SSA in RSA].

- ii) **Disintegration:** The teacher abandons the structure and discipline of her old, transmission style but does not actually replace them with those of the new methodology; the result is chaos in the classroom. In the words of the poet Yeats³, "Things fall apart; the centre cannot hold." This may be what happened in some classes in Kangwane when Breakthrough was first introduced in 1990 (c.f. Results above). This occurs in the disintegration area.
- iii) **Pedestrianism:** The teacher adopts many or most of the main elements of new methodology but, lacking confidence, adheres too rigidly to manuals or

³ Yeats, W.B. : "The Second Coming".

the method as demonstrated during training. This results in lessons which are in the main coherent and structured, but also unimaginative, repetitive and rather inflexible. This occurs in the pedestrian area. Cunningsworth (1990:10) observed this in some classes in Bophuthatswana, Venda and the Eastern Cape:

There was also evidence that some teachers had not wholly grasped the methods and rationale behind Bridge. Examples of this included a group of pupils in one class copying a story mechanically from the Bridge pupils' book into their exercise books whilst the teacher was busy with another group in the 'teaching corner', poor organisation of group work in another class resulting in pupils being unsettled and underoccupied, and with another class inadequate monitoring and correction of pupils' work...

In one lesson which I observed a very traditional approach led to the occupational tasks (which are designed to be worked through in small groups) being done in lock-step by the whole class against the recommendations of the Teacher's Manual, to very rigid class management and to a lack of display on the walls. However, later in the same lesson the children broke into groups and there was a variety of activity in the classroom, including a teaching group in the 'teaching corner', silent reading and a communicative language activity (albeit done rather mechanically). In this context, the teacher had shown herself to be skilled at managing groupwork within a fairly tightly-controlled class with the effect that a good deal of useful work was done.

This example typifies the mix of traditional and more modern methodology that I encountered on a number of occasions and

which seems to represent the stage of development reached in the implementation of the Molteno materials on the ground.

There is clearly a great danger of recidivism here. Without consciously rejecting the innovation, the teacher may gradually lapse into old ways, retaining a mere modicum of ideas and techniques gleaned from the new methodology and its materials.

- iv) **Transformation:** Teachers move closer towards the new methodology, experimenting with, then accepting and implementing, its elements as they are seen to produce desirable results. In this category is the teaching practice identified by Macdonald (1990c:92-8) as possibly being an emerging indigenous style of teaching attributable to Breakthrough. Teachers, become "nurturant", (p22) but retain visible authority over their children. They are still the primary source of knowledge but in a way characterised by more active imparting and active receiving, and the skills of questioning come to the forefront (p93). This happens when the teacher enters the attainment area, but clings to the security of past experience. Gradually, bolder teachers endorse and implement the new methodology in both form and substance. They also extend and/or amend it, without sacrificing any of its essential features, to suit themselves. This occurs in the attainment area.

Passage between areas above and below the horizontal axis is quite frequently made, as from area (i) to (ii) or from (iv) to (iii). But the vertical axis is a watershed not easily traversed.

3. RECOMMENDATIONS

3.1 For the Molteno Project

- i) To minimize the risk of squandering the Project's resources, the introduction of **Molteno courses into schools should be both more selective**, on the basis of the schools' ability to support innovation, **and more participatory**, in terms of teachers' involvement in the decision-making process.
- ii) For the same reason, **schools' progress with Molteno courses should be subject to more frequent and more rigorous appraisal**, leading to decisions on whether to proceed with the next phase of implementation.
- iii) **Classroom testing should be given more prominence** in Molteno course manuals in order to develop teachers' evaluation skills and pupils' confidence in coping with tests.
- iv) Given the general paucity of evaluative information on primary education systems, the Project should **integrate data collection procedures into all aspects of its fieldwork**.

3.2 For Testers

- i) Communicative tasks stimulate and challenge pupils and **should be utilized more frequently in tests at all levels**.
- ii) Allowing for proper considerations of validity and reliability, the tester is best able to judge the usefulness of the data. In devising a test, then, **the tester should focus more upon what he/she needs to know and the logistics of how to find it out than on highly technical aspects of data analysis**. Baker (1989:64) warns against overemphasizing statistical analysis:

While recognizing the usefulness of such techniques in aiding judgment we must also bear in mind that the statistical behaviour of a test or its parts is only one of the factors that determine its relevance or acceptability.

- iii) As a popular adage has it, *data* only becomes *information* when it is put into a meaningful context. Thus, too, test data should be read against a **background of contextual knowledge** for it actually to become informative. Analysing statistics from groups and sub-groups produces different impressions with each new calculation but never really presents a clear overall view (Baker, 1989:64). However, superimposing the same data on a broad qualitative outline will often bring the full picture into plain sight.
- iv) External tests, that is tests devised or administered by outsiders, have a powerful backwash effect on teachers. Teachers readily believe that such tests, and the tasks they incorporate, have special merit. Therefore the tester who knows that his test will be used in other people's classrooms should **consciously try to incorporate into them sound principles of language-teaching and -learning.**
- iv) The validity of cloze- and C-tests for elementary pupils **should be seriously re-examined.**
- v) **Urgent attention should be given to filling the need for standardized language attainment and proficiency tests, in the vernaculars and EFL.** At present, teachers and researchers alike operate in an information vacuum, without the basic instruments of comparative evaluation. To begin with, the HSRC's Performance Test: Reading Comprehension, English Second Language, Elementary Level should be rewritten and re-normed for use in black schools.

3.3 For Teachers

- i) **More time should be devoted during language lessons to the development of pupils' reading skills.**
- ii) **Classroom evaluation should be made more objective and more visibly based on pupils' performance.**
- iii) **Much more use should be made of communicative tasks for both language teaching and testing.**

3.4 For Educational Administrators

- i) **While success rates vary under the influence of innumerable variables, it is clear that the efforts of NGOs can have a positive *and incremental* influence on the quality of education in public schools. Therefore, the expertise of NGOs should be more fully drawn upon.**
- ii) **In-service teacher-training and -upgrading is vital to the success of classroom innovation. Consequently, state provision for in-service training systems should be extended.**
- iii) **In order to maximise the cost-effectiveness of public spending on textbooks, language course materials for junior-primary pupils should be more carefully selected. Criteria for selection should include the incorporation into the materials of exercises to develop cognitive skills such as hypothesizing and the gleaning, interpretation and transfer of information, contextualising information and visual literacy. EFL course materials should explicitly attempt to upgrade the *teachers'* language proficiency, as well as the pupils'.**

- iv) **Course materials should also give the teacher explicit methodological direction.** The primary EFL teacher in the developing world is typically unsure of her linguistic competence and her teaching ability. At least in the early phases of a course, step-by-step lesson plans and instructions on how to make simple teaching aids can provide the insecure teacher with both a safety net and a springboard for professional self-development.
- v) - In view of the present unsatisfactory state of pupil-assessment in many schools, teachers should be given more training in classroom evaluation techniques.

3.5 For Further Research

The reader of this thesis will have discerned that it touches upon numerous areas which require further research. It is no exaggeration to say that upon the map of primary language education there are more uncharted areas than known world.

Accepting Beeby's hypothesis (1969:39) that

When the level of skill of most teachers is too near the beginning of Stage III (the Transition phase), it is generally wiser to concentrate on helping them to do better the things they are already doing than to try to switch them to a radically different concept of education,

this researcher is of the opinion that aspects upon which information is most urgently required include:

- i) The use of the mother tongue in content subjects beyond the junior primary phase.

- ii) The theory and practice of reading pedagogy for large classes.
- iii) Models of in-service teacher-training.

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APPENDIX A

EXCERPTS FROM THE HSRC TEST

&

FACSIMILE OF ANSWER SHEET

[Excerpted from: Barnard, I. & Chamberlain, J.C.: **Performance Test: Reading Comprehension, English Second Language, Elementary Level.** Pretoria: HSRC, 1992.]

INSTRUCTIONS

1. EACH QUESTION HAS ONLY THREE POSSIBLE ANSWERS (A, B AND C).
2. INDICATE THE CORRECT ANSWER ON YOUR ANSWER SHEET.
3. THERE IS ONLY ONE CORRECT ANSWER TO EACH QUESTION.

EXAMPLES

p. WHICH IS THE *CORRECT* ANSWER?

We buy groceries at a ...

- A. chemist.
- B. supermarket.
- C. florist.

THE CORRECT ANSWER IS NEXT TO B. ANSWER THE QUESTION ON YOUR ANSWER SHEET. COLOUR THE OVAL WITH THE LETTER B NEXT TO LETTER p IN THE PINK BLOCK.

DO NOT COLOUR IN ANY SPACE OUTSIDE THE OVAL AND DO NOT MAKE ANY OTHER PENCIL MARKS ON THE ANSWER SHEET.

YOU HAVE MARKED THE ANSWER CORRECTLY WHEN YOU HAVE DONE IT AS FOLLOWS:

p. ☐ A ☒ B ☐ C

READ THE FOLLOWING AND ANSWER QUESTION q.

July

Not long after the death of the Roman ruler Julius Caesar, the Roman Senate honoured him. They changed the name of the month of his birth to Julius. In English, it became *July*.

q. Complete the following.

The Romans honoured Julius Caesar by naming a ... after him.

- A. season
- B. day
- C. month

THE CORRECT ANSWER IS NEXT TO C. IF YOU HAVE NOT COLOURED IN THE OVAL C, RUB OUT THE WRONG MARK AND COLOUR IN THE OVAL WITH THE LETTER C NEXT TO LETTER q IN THE PINK BLOCK.

DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO DO SO.

WHICH IS THE CORRECT ANSWER (Questions 1-4)?

1. Before visiting the doctor, one should make ...
 - A. an appointment.
 - B. a cancellation.
 - C. an arrangement.
2. The people consulting the doctor are called ...
 - A. friends.
 - B. patients.
 - C. invalids.
3. Oranges and lemons are grown on a ... farm.
 - A. vegetable
 - B. wheat
 - C. citrus
4. Fowls, turkeys and geese are called ...
 - A. pets.
 - B. meat.
 - C. poultry.

READ THE FOLLOWING AND ANSWER QUESTIONS 5 AND 6.

March

- 1 The Romans believed in a god of war, called Mars. They named a
- 2 month of the year in his honour. For a long time this month was
- 3 called "Martius". In English it became "March".

Source: adapted from *Childcraft - Holidays and Customs*
Volume 9

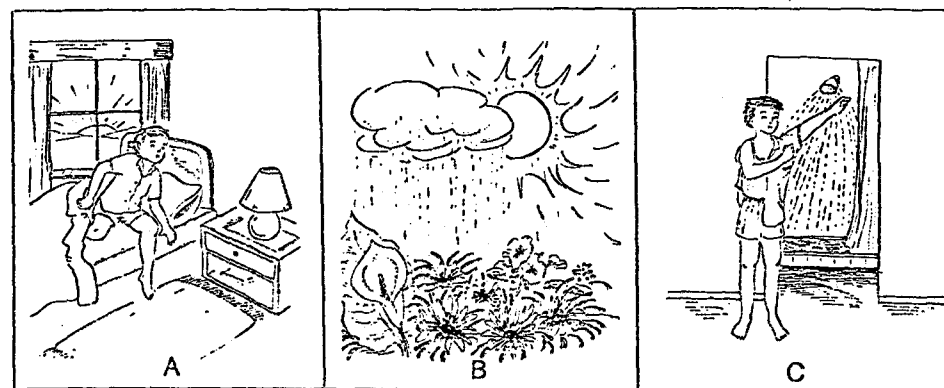
5. Why was the month named after the Roman god? The people ...
 - A. wanted to honour him.
 - B. were afraid of him.
 - C. wanted to pray to him.
6. Who named a month after their god of war? The ...
 - A. Romans
 - B. Martians
 - C. English

READ THE FOLLOWING AND ANSWER QUESTION 7.

I like the sun
I like a shower
It takes them both
To make a flower.

Clarince F. Booth

7. Which picture best describes the poem?



READ THE FOLLOWING AND ANSWER QUESTIONS 8-10.

The Germ

- 1 A mighty creature is the germ
- 2 Though smaller than the worm
- 3 His customary dwelling place
- 4 Is deep within the human race.
- 5 His childish pride he often pleases
- 6 By giving people strange diseases.
- 7 Do you, dear reader, feel infirm?
- 8 You probably contain a germ.

Ogden Nash (adapted)

8. Where does one often find germs? In ...
 - A. the body
 - B. children
 - C. a reader
9. What pleases the germ most? To ...
 - A. be destroyed
 - B. make people feel ill
 - C. be mighty
10. If one feels "infirm" (line 7) one feels ...
 - A. lazy.
 - B. ill.
 - C. disturbed.

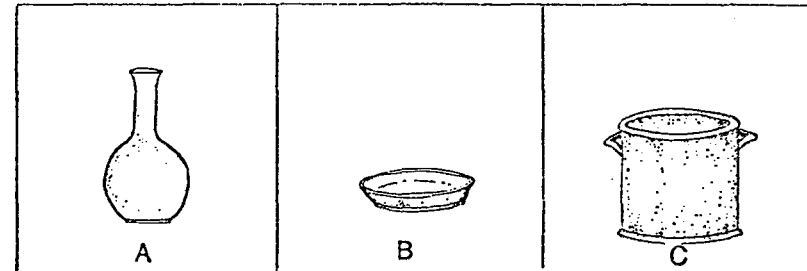
READ THE FOLLOWING AND ANSWER QUESTIONS 11-13.

There once was a fox who thought himself very clever. One day he asked Mrs Stork, whom he thought a foolish bird, to try some soup he had made. But he served it in a shallow dish, so that she did not get one drop.

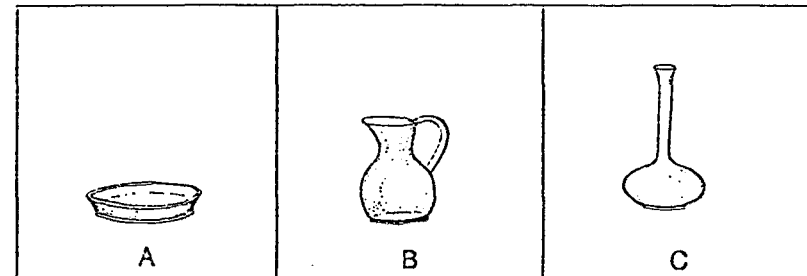
Next day Mrs Stork asked Mr Fox to pay her a return visit to try some soup of hers. But, unfortunately, she served it in a vase so slender (thin) that he did not get one drop.

11. The fox thought that he was ...
 - A. smart.
 - B. stupid.
 - C. foolish.

12. In which dish did the fox serve the food?



13. What did the vase in which Mrs Stork served the food look like?



READ THE FOLLOWING AND ANSWER QUESTIONS 29-33.

1 One way to tell a hyena's mood is by the position of its tail - much
2 in the same way as with a domestic dog. When a hyena is walking
3 peacefully along the tail hangs down, but if it is frightened it tucks
4 its tail between its legs and flat against its stomach. An aggressive
5 hyena about to hunt or attack carries its tail straight up. If the tail is
6 up and pointing right over the back, the hyena is extremely excited.
7 Sometimes it flicks its tail when slightly nervous. Hyenas
8 communicate at night through their weird and chilling calls. A
9 hyena's "whoop" can be heard about five kilometres away and is as
10 familiar in the bushveld as a lion's roar. Hyenas also "giggle" and
11 "laugh". Normally they giggle when they are frightened and being
12 chased by other hyenas or lions. At a kill they laugh with
13 excitement as they tear at the flesh.

Source: *Mammals of Southern Africa*

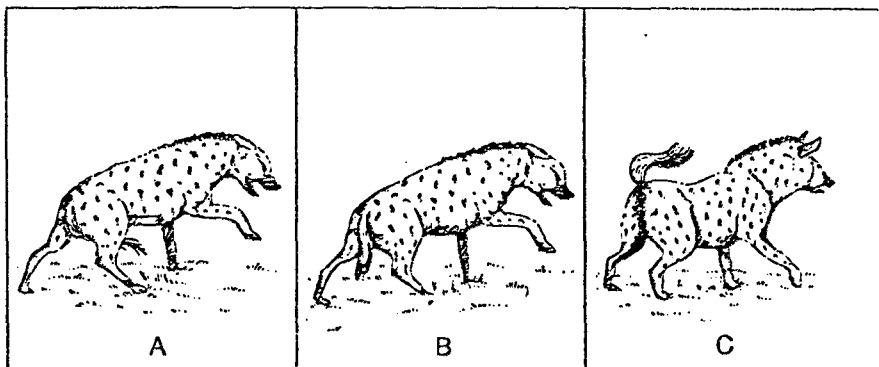
29. How can one tell a hyena's mood? By looking at its ...

- A. eyes
- B. tail
- C. neck

30. Which other animal's mood can also be seen in this way? A ...

- A. lion's
- B. cat's
- C. dog's

31. Which hyena is frightened?



12

32. When a hyena is slightly nervous it ... its tail.

- A. points
- B. flicks
- C. drops

33. Hyenas communicate by ...

- A. moaning.
- B. barking.
- C. whooping.

READ THE FOLLOWING AND ANSWER QUESTIONS 34-40.

A Plague of Rain and Mud

1 Ben and Rue Pine were preparing lunch one rainy afternoon last
2 week. Suddenly, the hillside behind their garage began to move.
3 Tons of brick-red mud broke through a 1-metre retaining wall,
4 crashed through the garage walls and swept the two cars in it down
5 the road. Nearby, Richard Shirey was in his backyard desperately
6 trying to shovel mud away from the house. He was swept under by
7 a fresh avalanche and seriously hurt. The mud then crashed
8 through the walls of the house, slamming his wife, Marion, into a
9 kitchen counter while she was trying to escape. When friends dug
10 her out an hour later, she was in a serious condition.

11 All along the coast of southern California last week, more than 200
12 millimetres of rain brought devastation to dozens of communities.
13 At least 26 people died in mud slides, flash floods, smashing ocean
14 waves and gale force winds. Thousands of families were evacuated
15 - some by horseback, some by helicopter. Many homes were
16 levelled and more than 1,300 were heavily damaged. Roads were
17 ripped up as if by an earthquake, and cars buried. The storm
18 travelled as far east as Phoenix, bringing the worst floods in 40
19 years. By the end of the week, total damages had topped half a
20 billion dollars, and the President declared nine counties Federal
21 disaster areas - three in Arizona, six in California.

Source: *unknown*

13

GENERAL ANSWER SHEET 3 / ALGEMENE ANTWOORDBLAD 3

1	Name Naam														
2	Subject Vak	TESTER TOETSAFNEMER				DATE DATUM									
3	School Skool					HUNDREDS HONDERDE	A	(0) (1) (2) (3) (4) (5) (6) (7) (8) (9)							
						TENS TIENE	B	(0) (1) (2) (3) (4) (5) (6) (7) (8) (9)							
						UNITS EEN	C	(0) (1) (2) (3) (4) (5) (6) (7) (8) (9)							
						HUNDREDS HONDERDE	D	(0) (1) (2) (3) (4) (5) (6) (7) (8) (9)							
						TENS TIENE	E	(0) (1) (2) (3) (4) (5) (6) (7) (8) (9)							
						UNITS EEN	F	(0) (1) (2) (3) (4) (5) (6) (7) (8) (9)							
	4 Pupil number Leerlingnommer														
	5 Home language Huis taal	Afrikaans	English	Ndebele	N-Sotho	S-Sotho	Swazi	Tswana	Tsonga	Venda	Xhosa	Zulu	Other		
	6 Sex Geslag	Male ☐ Manlik Female ☐ Vroulik													
	7 Age Ouderdom	YEARS JARE	TENS TIENE		UNITS EEN		G	(0) (1) (2) (3) (4) (5) (6) (7) (8) (9)							
	8 Standard Standaard	H													
	9 Form of test Vorm van toets	J													
	10	K													
	11	L													



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Goldfields Press September 1991

TEST / TOETS 1

TEST / TOETS 2

TEST / TOETS 3

p (A) (B) (C) (D)
q (A) (B) (C) (D)
r (A) (B) (C) (D)
s (A) (B) (C) (D)

p (A) (B) (C) (D)
q (A) (B) (C) (D)
r (A) (B) (C) (D)
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p (A) (B) (C) (D)
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- | | | | | | | |
|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|----|
| 1 (A) (B) (C) (D) | 31 (A) (B) (C) (D) | 1 (A) (B) (C) (D) | 31 (A) (B) (C) (D) | 1 (A) (B) (C) (D) | 31 (A) (B) (C) (D) | 15 |
| 2 (A) (B) (C) (D) | 32 (A) (B) (C) (D) | 2 (A) (B) (C) (D) | 32 (A) (B) (C) (D) | 2 (A) (B) (C) (D) | 32 (A) (B) (C) (D) | 16 |
| 3 (A) (B) (C) (D) | 33 (A) (B) (C) (D) | 3 (A) (B) (C) (D) | 33 (A) (B) (C) (D) | 3 (A) (B) (C) (D) | 33 (A) (B) (C) (D) | 17 |
| 4 (A) (B) (C) (D) | 34 (A) (B) (C) (D) | 4 (A) (B) (C) (D) | 34 (A) (B) (C) (D) | 4 (A) (B) (C) (D) | 34 (A) (B) (C) (D) | 18 |
| 5 (A) (B) (C) (D) | 35 (A) (B) (C) (D) | 5 (A) (B) (C) (D) | 35 (A) (B) (C) (D) | 5 (A) (B) (C) (D) | 35 (A) (B) (C) (D) | 19 |
| 6 (A) (B) (C) (D) | 36 (A) (B) (C) (D) | 6 (A) (B) (C) (D) | 36 (A) (B) (C) (D) | 6 (A) (B) (C) (D) | 36 (A) (B) (C) (D) | 20 |
| 7 (A) (B) (C) (D) | 37 (A) (B) (C) (D) | 7 (A) (B) (C) (D) | 37 (A) (B) (C) (D) | 7 (A) (B) (C) (D) | 37 (A) (B) (C) (D) | 21 |
| 8 (A) (B) (C) (D) | 38 (A) (B) (C) (D) | 8 (A) (B) (C) (D) | 38 (A) (B) (C) (D) | 8 (A) (B) (C) (D) | 38 (A) (B) (C) (D) | 22 |
| 9 (A) (B) (C) (D) | 39 (A) (B) (C) (D) | 9 (A) (B) (C) (D) | 39 (A) (B) (C) (D) | 9 (A) (B) (C) (D) | 39 (A) (B) (C) (D) | 23 |
| 10 (A) (B) (C) (D) | 40 (A) (B) (C) (D) | 10 (A) (B) (C) (D) | 40 (A) (B) (C) (D) | 10 (A) (B) (C) (D) | 40 (A) (B) (C) (D) | 24 |
| 11 (A) (B) (C) (D) | 41 (A) (B) (C) (D) | 11 (A) (B) (C) (D) | 41 (A) (B) (C) (D) | 11 (A) (B) (C) (D) | 41 (A) (B) (C) (D) | 25 |
| 12 (A) (B) (C) (D) | 42 (A) (B) (C) (D) | 12 (A) (B) (C) (D) | 42 (A) (B) (C) (D) | 12 (A) (B) (C) (D) | 42 (A) (B) (C) (D) | 26 |
| 13 (A) (B) (C) (D) | 43 (A) (B) (C) (D) | 13 (A) (B) (C) (D) | 43 (A) (B) (C) (D) | 13 (A) (B) (C) (D) | 43 (A) (B) (C) (D) | 27 |
| 14 (A) (B) (C) (D) | 44 (A) (B) (C) (D) | 14 (A) (B) (C) (D) | 44 (A) (B) (C) (D) | 14 (A) (B) (C) (D) | 44 (A) (B) (C) (D) | 28 |
| 15 (A) (B) (C) (D) | 45 (A) (B) (C) (D) | 15 (A) (B) (C) (D) | 45 (A) (B) (C) (D) | 15 (A) (B) (C) (D) | 45 (A) (B) (C) (D) | 29 |
| 16 (A) (B) (C) (D) | 46 (A) (B) (C) (D) | 16 (A) (B) (C) (D) | 46 (A) (B) (C) (D) | 16 (A) (B) (C) (D) | 46 (A) (B) (C) (D) | 30 |
| 17 (A) (B) (C) (D) | 47 (A) (B) (C) (D) | 17 (A) (B) (C) (D) | 47 (A) (B) (C) (D) | 17 (A) (B) (C) (D) | 47 (A) (B) (C) (D) | 31 |
| 18 (A) (B) (C) (D) | 48 (A) (B) (C) (D) | 18 (A) (B) (C) (D) | 48 (A) (B) (C) (D) | 18 (A) (B) (C) (D) | 48 (A) (B) (C) (D) | 32 |
| 19 (A) (B) (C) (D) | 49 (A) (B) (C) (D) | 19 (A) (B) (C) (D) | 49 (A) (B) (C) (D) | 19 (A) (B) (C) (D) | 49 (A) (B) (C) (D) | 33 |
| 20 (A) (B) (C) (D) | 50 (A) (B) (C) (D) | 20 (A) (B) (C) (D) | 50 (A) (B) (C) (D) | 20 (A) (B) (C) (D) | 50 (A) (B) (C) (D) | 34 |
| 21 (A) (B) (C) (D) | 51 (A) (B) (C) (D) | 21 (A) (B) (C) (D) | 51 (A) (B) (C) (D) | 21 (A) (B) (C) (D) | 51 (A) (B) (C) (D) | 35 |
| 22 (A) (B) (C) (D) | 52 (A) (B) (C) (D) | 22 (A) (B) (C) (D) | 52 (A) (B) (C) (D) | 22 (A) (B) (C) (D) | 52 (A) (B) (C) (D) | 36 |
| 23 (A) (B) (C) (D) | 53 (A) (B) (C) (D) | 23 (A) (B) (C) (D) | 53 (A) (B) (C) (D) | 23 (A) (B) (C) (D) | 53 (A) (B) (C) (D) | 37 |
| 24 (A) (B) (C) (D) | 54 (A) (B) (C) (D) | 24 (A) (B) (C) (D) | 54 (A) (B) (C) (D) | 24 (A) (B) (C) (D) | 54 (A) (B) (C) (D) | 38 |
| 25 (A) (B) (C) (D) | 55 (A) (B) (C) (D) | 25 (A) (B) (C) (D) | 55 (A) (B) (C) (D) | 25 (A) (B) (C) (D) | 55 (A) (B) (C) (D) | 39 |
| 26 (A) (B) (C) (D) | 56 (A) (B) (C) (D) | 26 (A) (B) (C) (D) | 56 (A) (B) (C) (D) | 26 (A) (B) (C) (D) | 56 (A) (B) (C) (D) | 40 |
| 27 (A) (B) (C) (D) | 57 (A) (B) (C) (D) | 27 (A) (B) (C) (D) | 57 (A) (B) (C) (D) | 27 (A) (B) (C) (D) | 57 (A) (B) (C) (D) | 41 |
| 28 (A) (B) (C) (D) | 58 (A) (B) (C) (D) | 28 (A) (B) (C) (D) | 58 (A) (B) (C) (D) | 28 (A) (B) (C) (D) | 58 (A) (B) (C) (D) | 42 |
| 29 (A) (B) (C) (D) | 59 (A) (B) (C) (D) | 29 (A) (B) (C) (D) | 59 (A) (B) (C) (D) | 29 (A) (B) (C) (D) | 59 (A) (B) (C) (D) | 43 |
| 30 (A) (B) (C) (D) | 60 (A) (B) (C) (D) | 30 (A) (B) (C) (D) | 60 (A) (B) (C) (D) | 30 (A) (B) (C) (D) | 60 (A) (B) (C) (D) | 44 |

APPENDIX B

THE WALKER C-TEST

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PASSAGE 1

Each blank in the story below must be filled with the missing second half of the word. Each line stands for one missing letter. The teacher will read through the whole story with you. Then when the teacher tells you to, fill in the second half of the missing words.

SOAI'S ELAND HUNT

On a warm summer morning Soai left his grass-lined sleeping hollow and looked out over the valley. Today was a great day in his life. His father, Gai, his two brothers and seven of his uncles and cousins were taking him on an eland hunt. If Soai killed an eland from the herd, his family would say he was now a man.

For many days his father helped him to make a bow and arrows, and a quiver to hold the arrows. For the bow he cut a straight, smooth stick. It bent evenly when he tied a bowstring of animal sinew into the grooves cut at each end with his stone knife. Smaller sticks were for arrows. The arrowheads were of bone, polished on stone to make them sharp. Poison from a beetle was smeared just below the arrowhead, where it was fixed to the shaft. The quiver was made of hard leather sewn together with long bits of soft leather. The quiver would be strapped to Soai's back.

Soai and the other small, quiet hunters ran silently toward the valley. When they saw the eland herd, they began to look like animals moving through the grass. They kept downwind from the eland so that the herd could not smell them and be frightened away.

Closer they crept. Soai drew an arrow from the quiver on his back. He fitted it to his bowstring and bent his bow. The bowstring twanged and the arrow hissed through the air. An eland stumbled and the whole herd fled. The arrow had hit one of the animals on the side.

PASSAGE 2

The teacher will read through the whole story with you. Then fill in the missing second half of every second word.

ANCIENT CIVILISATIONS

The first people on earth appeared a very long time ago. We know very little about these people because they could not write and so left us no stories about how they lived. Slowly, from about 6 000 years ago, the first civilisations developed in many parts of the world.

People star- - living toge- - - in lar- - groups o- settlements. Th- - learnt ho- to gr- - their ow- food, an- no lon- - - moved aro- - - hunting an- collecting fo- -. Because th- - stayed in- one pla- -, they bui- - themselves hou- - -. They al- - made rul- - so th- - they cou- - live toge- - - in pea- -. Some o- them found out ways of writing.

People who live together in large groups and who have rules and laws to live by, are called 'civilised'. Many of the earliest civilisations grew amount people who lived in river valleys. It was important for these early people to be close to water. They needed water for themselves and for their crops.

APPENDIX C

THE MOLTEÑO TEST ITEMS

SISWATI

Item 1

bona	buna	bina	bona	bana
busa	busa	buka	bula	buka
vusa	vuka	vuba	vula	vusa
lusa	luma	lusa	lula	luka
bandza	landza	bandza	candza	londza
hlabela	hlabeka	hlalela	lahlela	hlabela
tsatsa	tsetsa	tsandza	tsatsa	tsenga

Item 2

1. Indvodza iya edolobheni

Indvodza iya esikolweni
Indvodza iya emsebentini
Make uya edolobheni
Indvodza iya edolobheni

2. Bantfwana baya esikolweni

Bantfwana baya epulasini
Bothishela baya esikolweni
Bantfwana baya esikolweni
Bantfwana baya esitolo

3. Inja itfole litsambo

Inja itfole litsambo
likati litfole litsambo
Inja itfole sicutfulo
Inja ilahle litsambo

4. Bulwembu bubamba timpungane

Tipungane tibamba bulwembu
Bulwembu bubamba tinfutwane
Libhungane libamba timpungane
Bulwembu bubamba timpungane

5. Tinkawu tihlala esihlahleni

Bulwembu buhlala etihlahleni
Tinkawu tihlala esihlahleni
Bulwembu buhlala emfuleni
Tinkawu tihlala emfuleni

6. Ehlobo umoya uyahhusha

Ehlobo litulu liyana
Ebusika umoya uyahhusha
Ebusika umoya awuhhushi
Ehlobo umoya uyahhusha

Item 3



sicatfulo

imfishi

kati

inyoka

1. Indvodza iphetse



sigcoko

buhlalu

lijazi

sikhafu

2. Intfombatana ifake



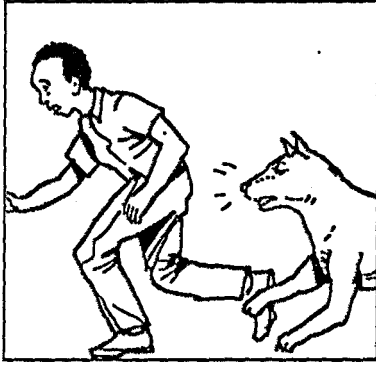
umrabaraba

sikoshi

ibhola

emakhadi

3.
Umfana udlala



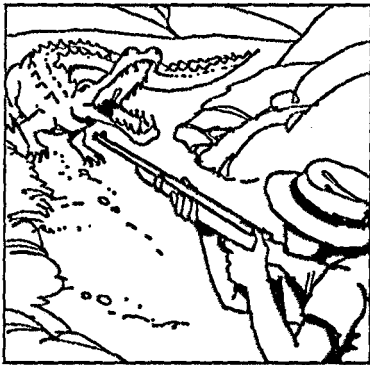
lihashi

yinja

ngukati

yingwenya

4. Indvodza igijimiswa



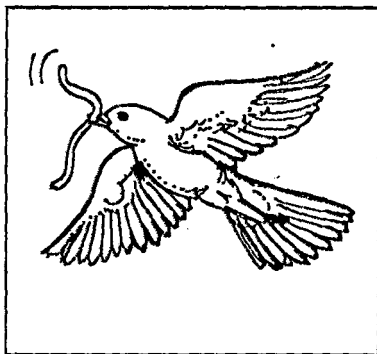
libhubesi

inyoka

ingwenya

inyamatane

5. Umtingeli udubula



liphela

sibungu

intfutwane

intsetse

6. Inyoni ibambe

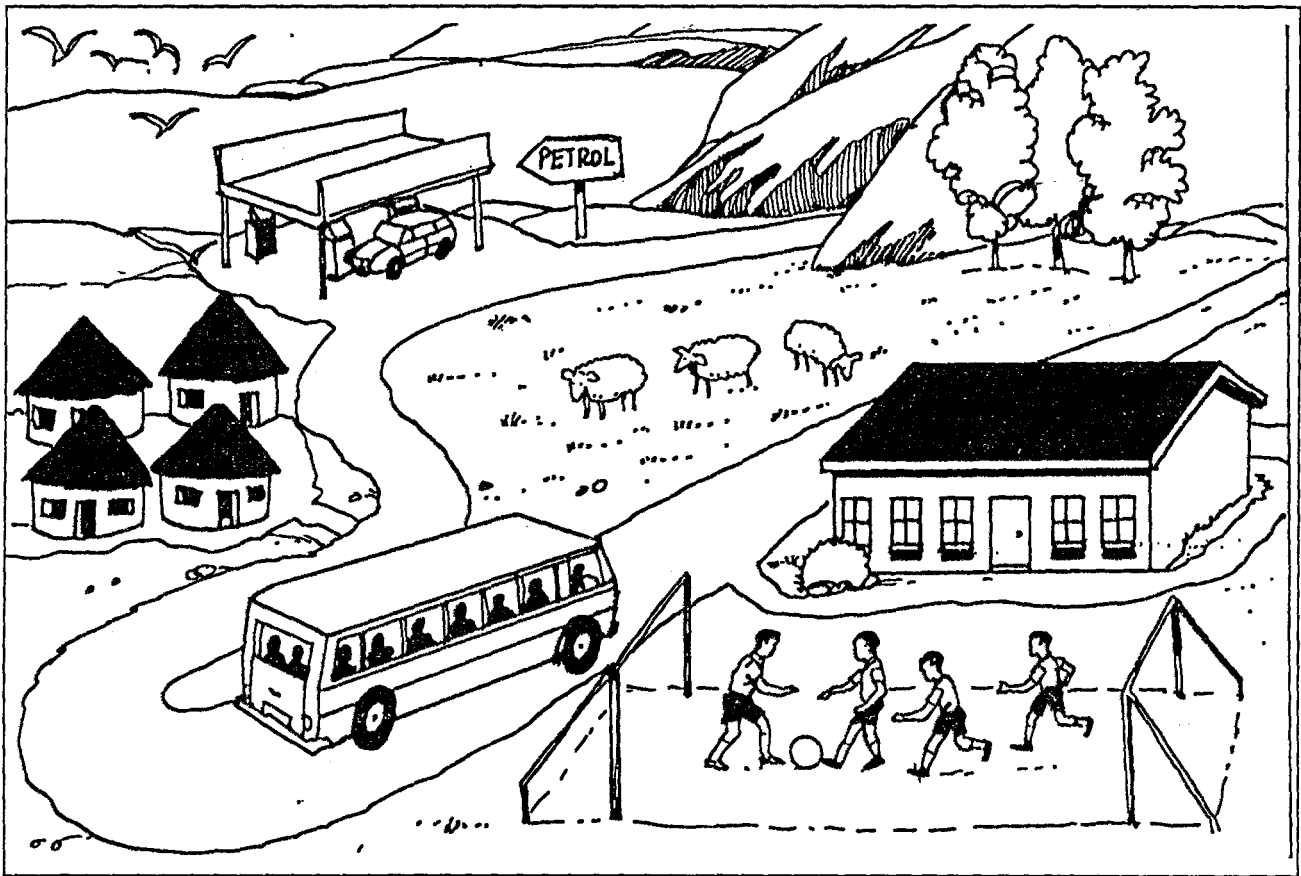
Item 4

umtingeli	inesikhumba lesinelusito
ingwenya	isinika lubisi
inyoni	udubula tilwane
inkhomo	italela emacandza esidlekeni
likati	uhlakaniphile kojwa uligwala
jakalasi	libamba emagundwane

Item 5

ngubani sikhatsi?	kuphela nawungagcoka lijezi
uneminyaka lemingaki?	ngudzadze wabo
kwabani?	yinsimbi yesikhombisa
ngicela kuphuma?	uneminyaka lelishumi
unjani lamuhla?	kwakhe
ngubani lona Mnumzane Seleka?	ngiyagula
kungakanani lokusele?	kute lokusele

Item 6



✓ ×

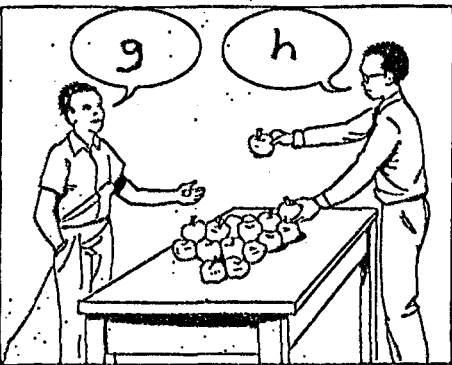
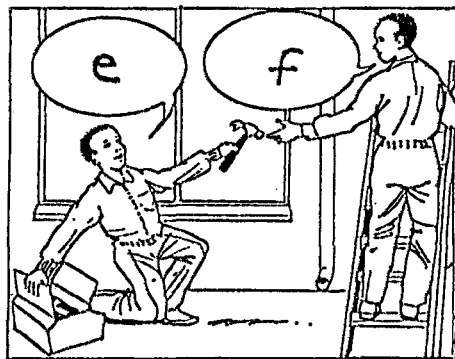
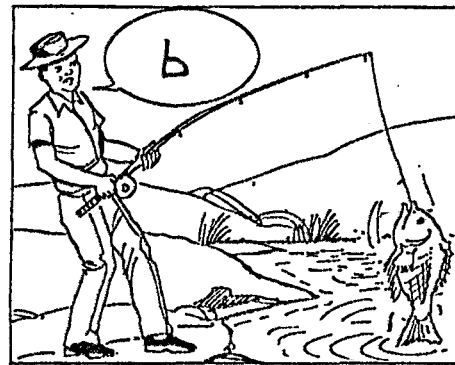
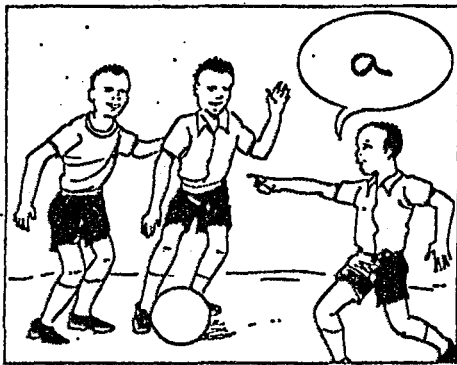
1. Timvu tise taleni.	✓
2. Lihheke lafenisi livulekile.	×
3. Bafana badlala ibhola.	
4. Tinyoni letisitfupha tiyaphapha.	
5. Imoto isegalaji.	
6. Kunetihlahla etaleni.	
7. Ibhasi imile egalaji.	

Item 7

- a. Dokotela weta wapopola Dechaba.
- b. Make waDechaba bekakhatsatekile emoyeni.
- c. Make wakhe wabita dokotela.
- d. Ngalelinye lilanga Dechaba bekagula.
- e. Watjela make waDechaba kutsi atsenge miphi imitsi.
- f. Ngekushesha Dechaba wativa sekancono.
- g. Wawutsenga esitolo sekhemisi.

1.	d
2.	c
3.	
4.	
5.	
6.	
7.	

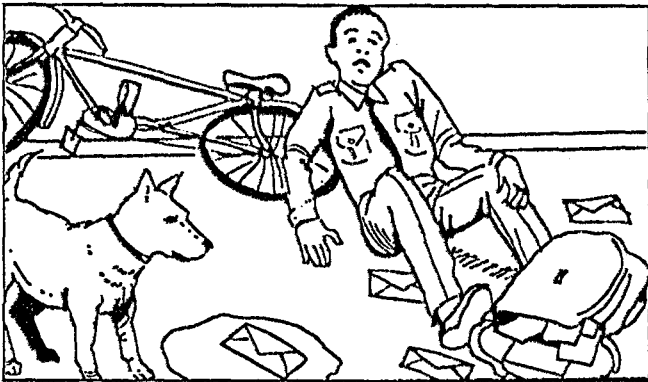
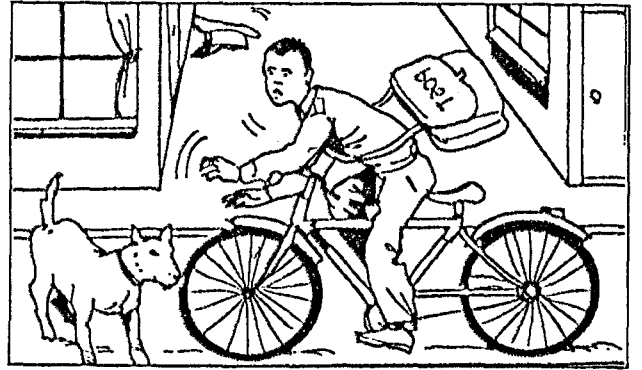
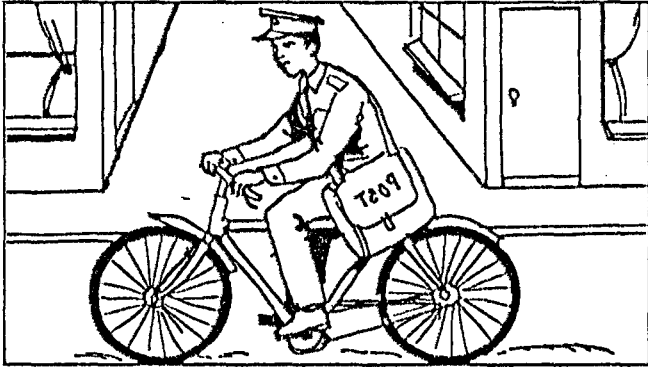
Item 8



1. Ligama lakhe nguNkululeko
2. Ngicela emahhabhula langusix.
3. Nam' ngicela kudlala?
4. Hha! lenkulu kangaka.
5. Ucinisile? hha! washonjalo?
6. Ngiphe lihhamula.

d

Item 9



1. Kwavelainja igijima yashaisana nelibhayisikili yawisa indvoza yeliposi lebeyigebele kulo.
2. Yinye yetincwadzi yawela eludzakeni, yabamanti yangcola.
3. Kwatsi ngalelinye lilanga indvoza leletsaliphiso igibele ebhayisikilini layo.
4. Inja yayisa lencwadzi lemanti lengcolile kumnikati wayo.
5. Ngalesosikhatsi isatibutsa,inja yatsatsa yinye yetincwadzi letimanti yabaleka nayo.

a	
b	
c	
d	
e	

APPENDIX D

THE MOLTENO TEST ITEMS

ENGLISH

Item 1

Find the same word

1.

dog

 -

hog	log	dog	bog
-----	-----	-----	-----
2.

man

 -

can	man	ran	tan
-----	-----	-----	-----
3.

will

 -

wail	well	wall	will
------	------	------	------
4.

boot

 -

boot	beat	boat	bout
------	------	------	------
5.

break

 -

brick	bread	bark	break
-------	-------	------	-------
6.

mouse

 -

moose	mouse	morse	noose
-------	-------	-------	-------
7.

hole

 -

hole	hill	hate	bole
------	------	------	------

Item 2

Which words rhyme?

1.

pig

 -

peg	big	beg	pin
-----	-----	-----	-----
2.

farm

 -

arm	barn	corn	born
-----	------	------	------
3.

tea

 -

she	leap	meat	then
-----	------	------	------
4.

bread

 -

heat	broad	street	said
------	-------	--------	------
5.

ball

 -

bell	crawl	fell	bull
------	-------	------	------
6.

pole

 -

peel	pall	coal	crawl
------	------	------	-------
7.

enough

 -

cough	through	tough	though
-------	---------	-------	--------

Item 3

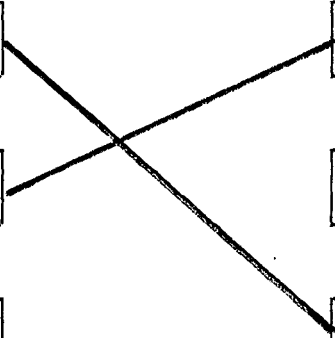
Which words do not rhyme?

1. meat - feet heat beat great
2. sky - boy buy by try
3. door - floor flour four store
4. hair - wear fear pear their
5. go - low how sew know
6. heard - third beard word bird
7. blue - knew shoe two sew

Item 4

Match the columns

1.	A cow	barks at night
2.	A dog	can catch mice
3.	A cat	gives us milk
4.	A mouse	has long ears
5.	A hen	flies in the sky
6.	A donkey	gives us eggs
7.	A bird	steals our corn



Item 5

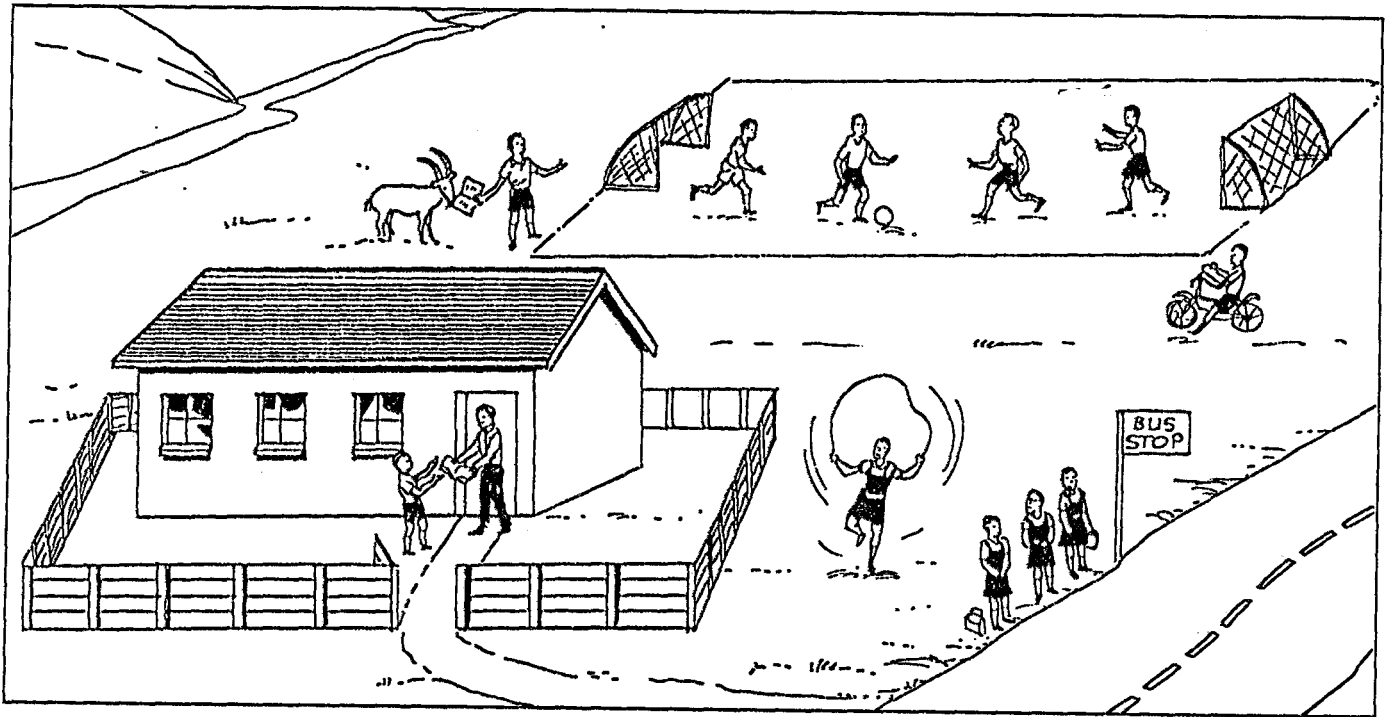
Match the columns

1.

A car	drives on the road
A bicycle	runs on the railway
A train	ploughs in the fields
A ship	has got two wheels
An aeroplane	walk on the ground
A tractor	flies in the sky
Our feet	sails on the sea

Item 6

Look at this picture



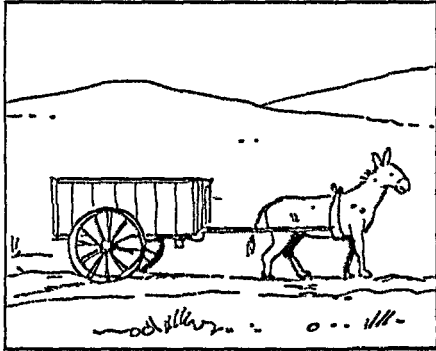
Answer YES (✓) or NO (x):

1. Three girls are waiting for the bus.
2. Some boys are playing hopscotch.
3. A girl is skipping.
4. The teacher has gone home.
5. There are two boys with bicycles.
6. A goat is eating a boy's book.
7. The gate of the school is open.

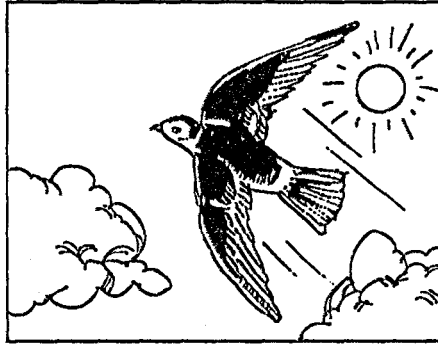


Item 7

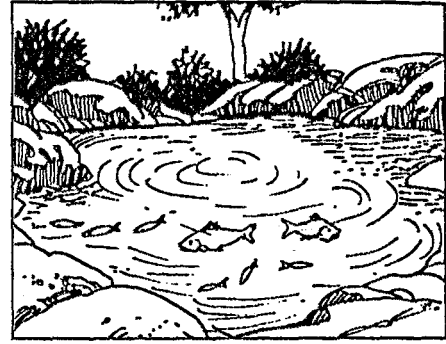
Match the pictures to the sentences.



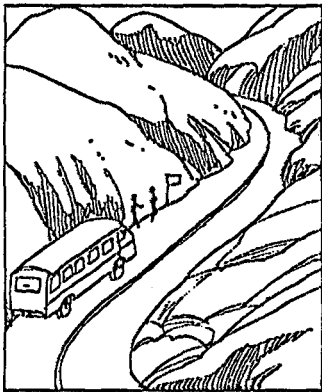
A



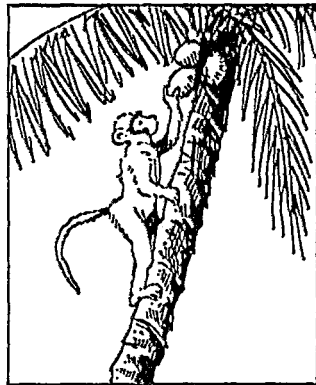
B



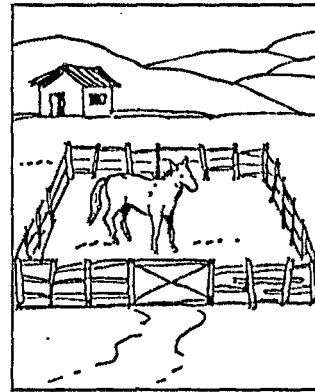
C



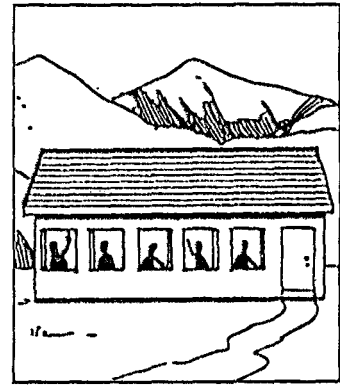
D



E



F



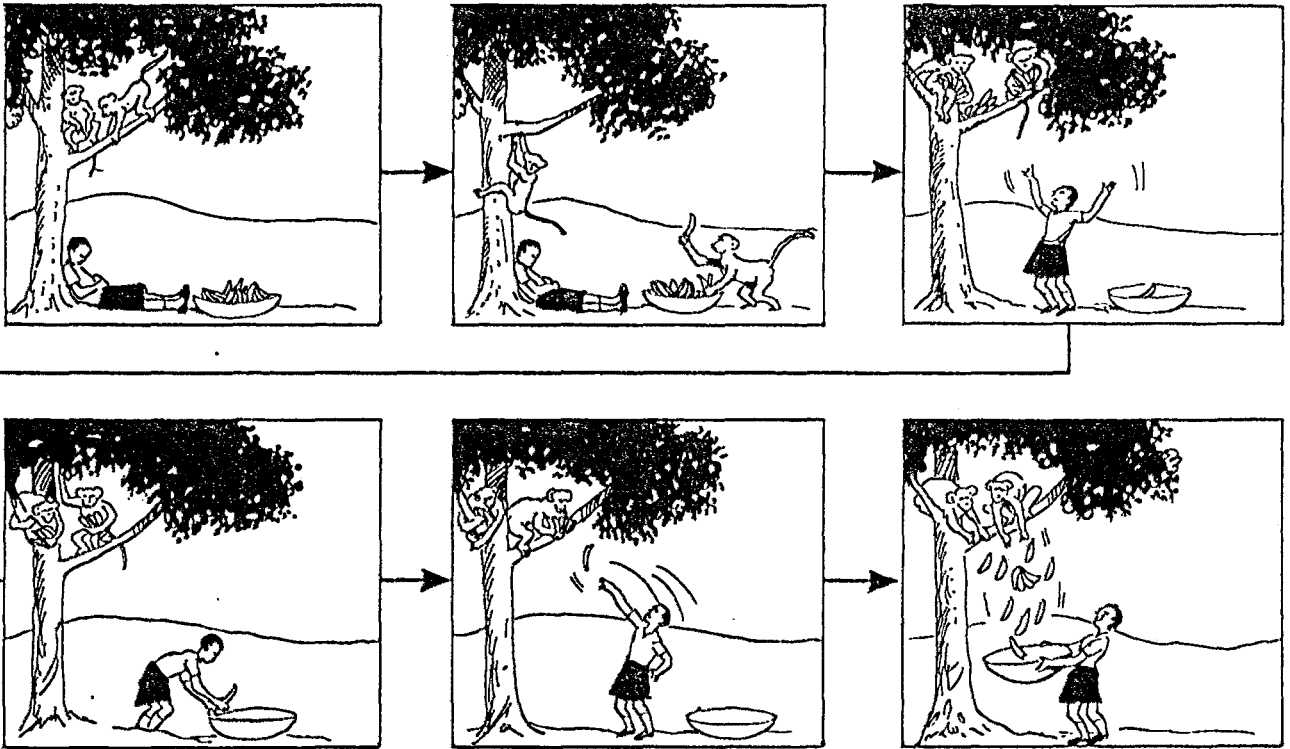
G

1. The bus is going up the hill.
2. The bird is flying in the sky.
3. The donkey is pulling the cart.
4. The monkey is in the tree.
5. The horse is in the field.
6. The fish are in the dam.
7. The children are in the school.

D
B

Item 8

Look at these pictures. They tell a story.



Mark YES (✓) or NO (x)

1. The woman was selling bananas.
2. The monkeys ate all the bananas.
3. The monkeys took the bananas.
4. The woman was angry with the monkeys.
5. The woman climbed the tree.
6. The monkeys ran away.
7. The monkeys threw down the bananas.

☒☒☐☐☐☐☐

ITEM 9

Write for the pictures.

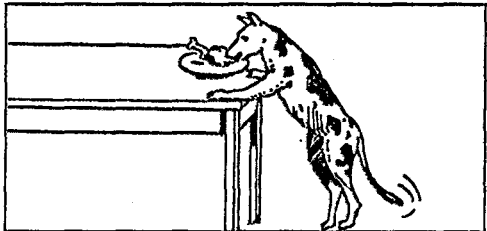
1



	The	is
woman		baby
the	carrying	

The woman is carrying the baby

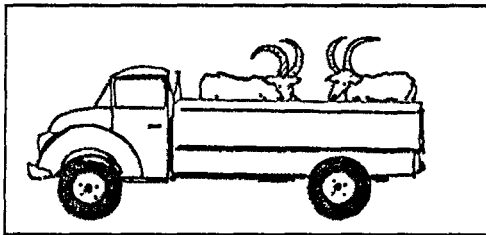
2.



	is	
The		dog
the	eating	food

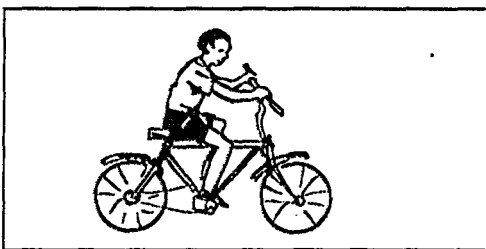
The dog is eating the food

3.



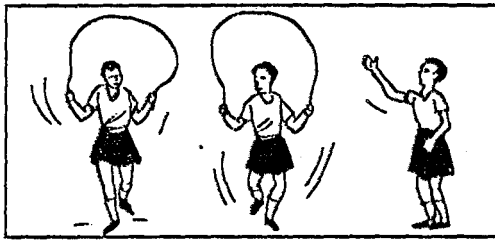
are	The	
	goats	lorry
in		the

4.



is		boy
riding	bike	
The		the

5.



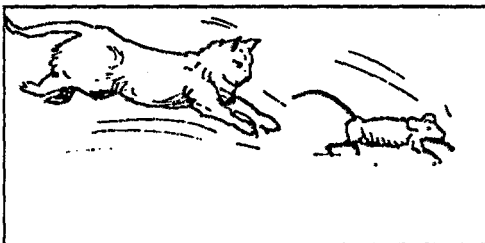
with	skipping	The
	ropes	are
girls		playing

6.



hunter	crocodile	
	The	the
	shooting	is

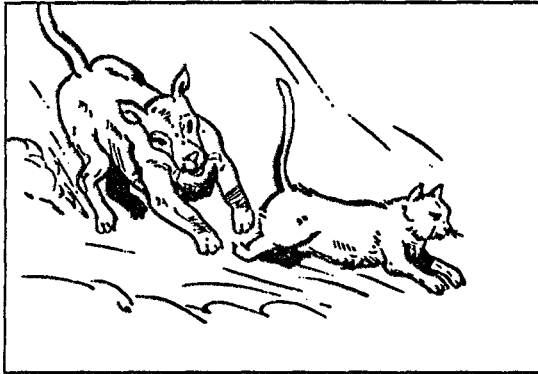
7.



is	The	mouse
cat		the
	chasing	

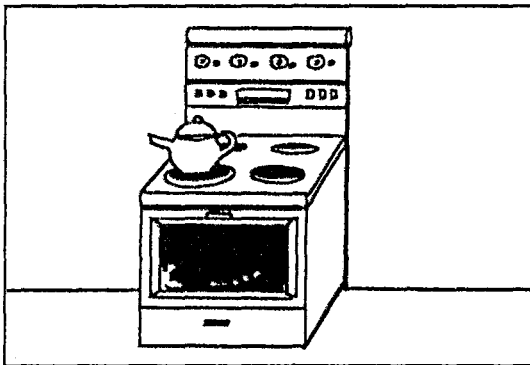
Item 10

Choose the right sentence:



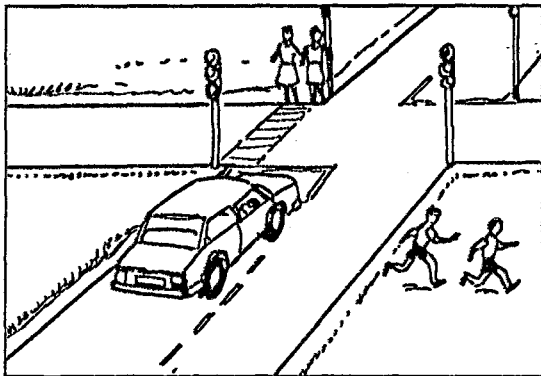
1. The dog is chasing a horse.
The cat is chasing a dog.
The dog is chasing a cat.
The dog is eating a cat.

✓

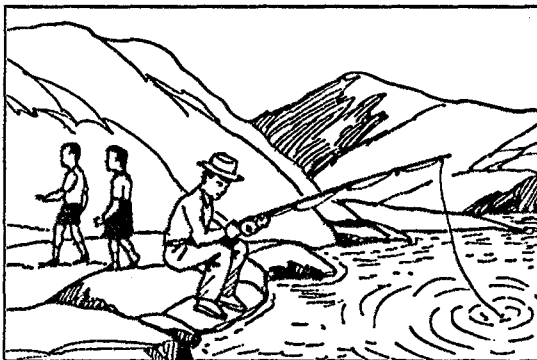


2. The kettle is on the stove
The pot is on the stove.
The cup is on the stove.
The bottle is on the stove.

✓



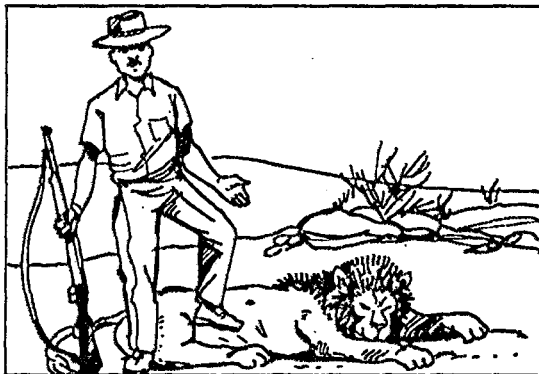
3. The boys are waiting to cross.
The cars are waiting to cross.
The girls are running away.
The girls are waiting to cross.



4. The man has caught a fish.
The man is fishing.
The children are fishing.
The children are going away.



5. The woman is eating.
The boy is chasing a goat.
The boy is coming home.
The woman is cooking.



6. The hunter has shot a crocodile.
The hunter is shooting a lion.
The hunter has shot a lion.
The hunter is looking for a lion.



7. The woman has bought clothes.
The woman is buying vegetables.
The girl is buying clothes.
The woman has bought vegetables.

Item 11

Match the questions and answers:

- | | |
|--------------------------------|--------------------------|
| 1. What is the time? | A. She is six years old. |
| 2. How old is she? | B. No, it's raining. |
| 3. May I go out? | C. I'm well, thank you. |
| 4. Where are you going? | D. It is two o'clock. |
| 5. How are you today? | E. That's his sister. |
| 6. Who is that with Mr Seleka? | F. To school. |
| 7. Why are you crying? | G. I hurt myself. |

Item 12

Choose the correct word for each sentence:

1. He had worked all
day; now he was

old	tired	happy
-----	-------	-------

2. She has many friends
because she is

cross	old	friendly
-------	-----	----------

3. There is no bread
because we have no

cars	money	friends
------	-------	---------

4. If a man is lazy, he
will lose his

job	hope	friends
-----	------	---------

5. When the sun goes
down, the sky
becomes

light	rainy	dark
-------	-------	------

6. We water the garden
to make the plants

thirsty	grow	dry
---------	------	-----

7. Before you cross
the street you must
carefully.

walk	think	look
------	-------	------

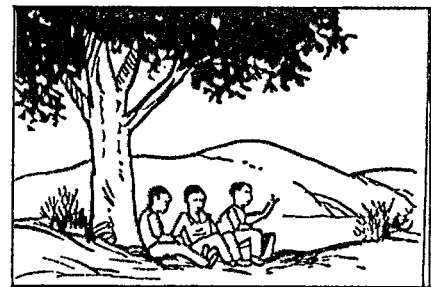
Item 13

Write for the pictures:

1. The woman is going
into the shop.



2. The boys are sitting
under the tree.



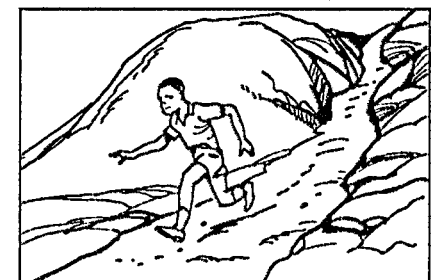
3. The girl is pointing
_____ the _____.



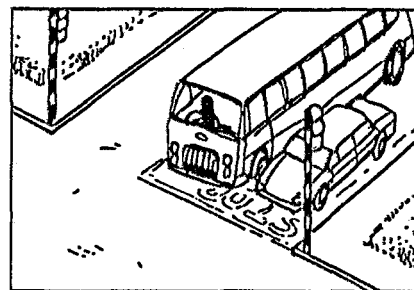
4. The hunter is hiding
_____ the _____.



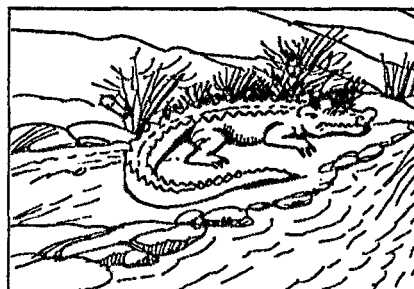
5. The child is running
_____ the _____.



6. The bus has
stopped _____ the
_____.



7. The crocodile is
lying _____ the bank
_____ river.



Item 14

Choose for the pictures:



1. The boy is playing with a

ball	bike	stone	yo-yo	dog
------	------	-------	-------	-----

2. The dog is jumping up for a

stone	stick	bone	ball	banana
-------	-------	------	------	--------

3. The girl is holding an

stick	axe	toy	cover	umbrella
-------	-----	-----	-------	----------

4. The bird has caught a

bone	stick	bird	worm	fish
------	-------	------	------	------

5. The man is carrying his

brick	box	ball	bag	log
-------	-----	------	-----	-----

6. The soldier is carrying his

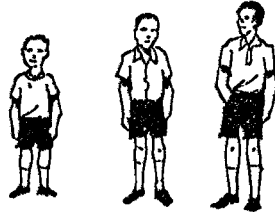
stick	sword	hat	gun	pack
-------	-------	-----	-----	------

7. The cow is eating

grass	trees	bushes	fruit	flowers
-------	-------	--------	-------	---------

Item 15

Choose for the pictures:



Siphho Thabo Joshua

1. Which boy is the tallest?

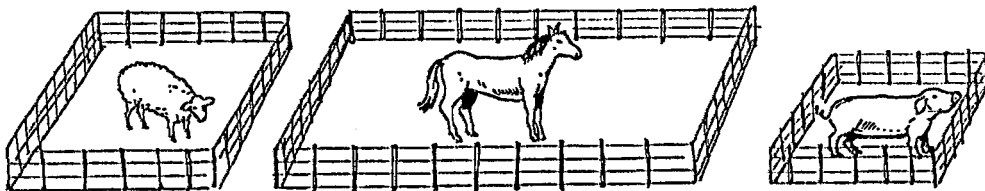
Thabo	Joshua	Siphho
-------	--------	--------



Mrs Moleka Mrs Mokoena Mrs Modikwe

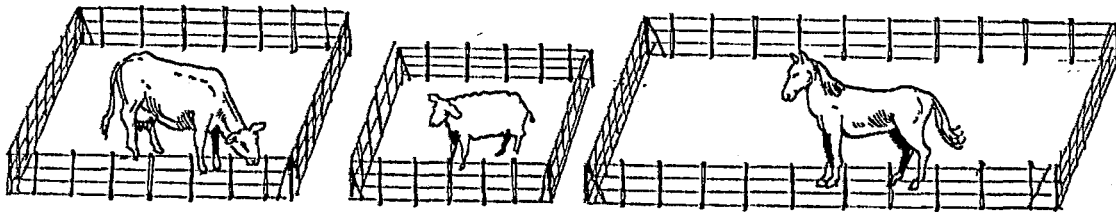
2. Which lady is thinnest?

Mrs Modikwe	Mrs Moleka	Mrs Mokoena
-------------	------------	-------------



3. Which animal has the longest fence?

horse	pig	sheep
-------	-----	-------



4. Which animal has the least grass?

horse	cow	sheep
-------	-----	-------



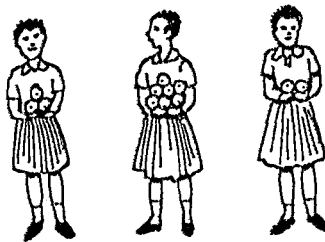
John

Vusi

Themba

5. Who has the biggest ball?

Themba	John	Vusi
--------	------	------



Phumla Thandi Nomsa

6. Which girl has the fewest oranges?

Nomsa	Phumla	Thandi
-------	--------	--------



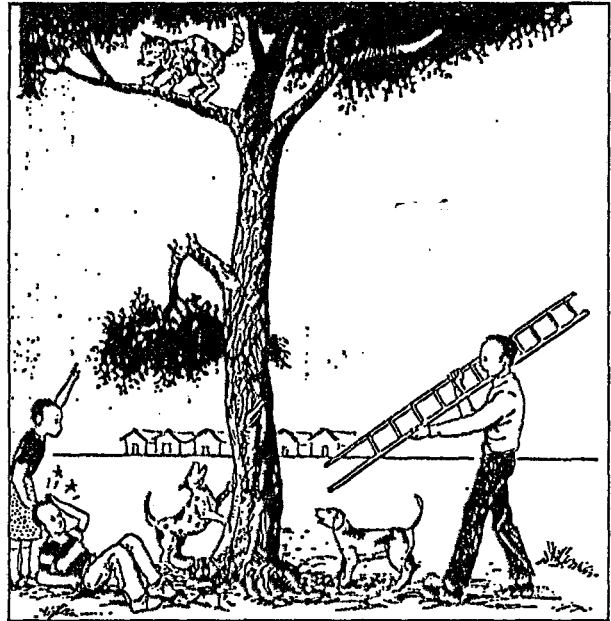
Mrs Ndaba Mrs Ndlovu Mrs Mathe

7. Who has the most grass?

Mrs Ndlovu	Mrs Mathe	Mrs Ndaba
---------------	--------------	--------------

Item 16

Match the columns
for the picture:



- | | |
|---------------------------|-------------------------|
| 1. The boy | are barking at the cat. |
| 2. The dogs | is pointing to the cat. |
| 3. The man | fell out of the tree. |
| 4. The girl | is very sore. |
| 5. The cat | is carrying a ladder. |
| 6. The branch of the tree | is in the tree. |
| 7. The boy's head | is broken. |

Item 17

Write in alphabetical order.

crocodile

table

mouse

book

cupboard

traffic

street

1. book

2. crocodile

3. _____

4. _____

5. _____

6. _____

7. _____

Item 18

Write for the pictures:

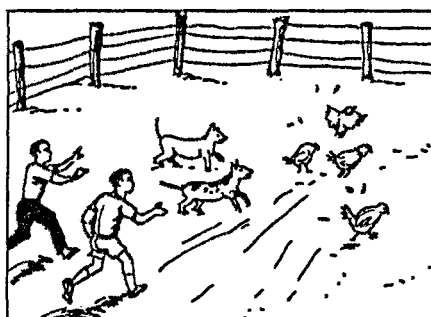
1.



	is		shop	
The lady	can	going to the	bank	with her daughter.
	are		school	
			garage	

The lady is going to the shop with her daughter.

2.



	cats		chickens
The boys and their	friends	are chasing the	dogs
	dogs		cats
	chickens		friends

The boys and their dogs are chasing the chickens.

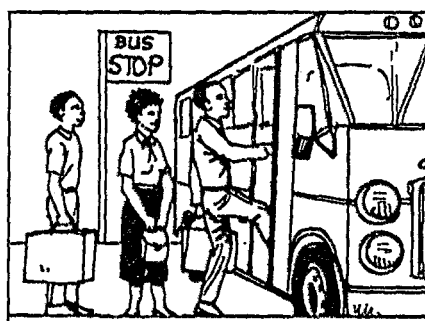
3.



Some		swimming		river
These	man is	sleeping	in the	dam
A		fishing		sea
Two		playing		

_____ man is _____ in the _____.

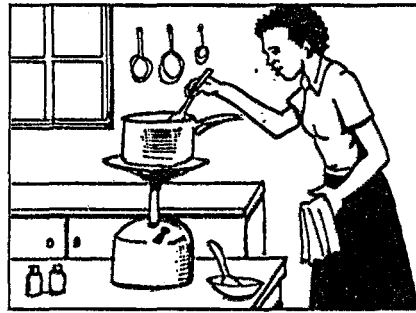
4.



Some		through	
A	people are getting	over	the bus
This		beside	
Two		onto	

_____ people are getting _____ the bus.

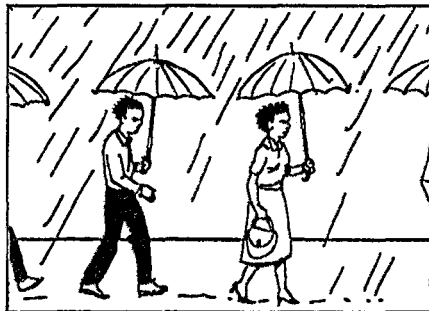
5.



	cooking		fridge
Mrs Mahupela is	playing	food on the	sink
	washing		cupboard
	eating		stove

Mrs Mahupela is _____ food on the _____.

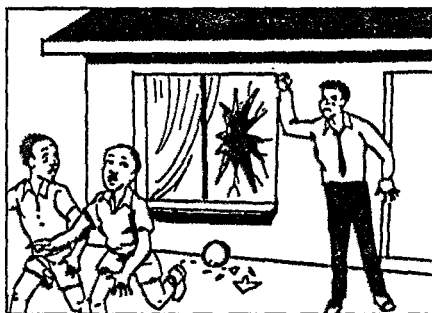
6.



	was		because		windy
The people	were	carrying umbrellas	so	it is	snowing
	is		but		raining
	are		when		sunny

The people _____ carrying umbrellas _____
it is _____.

7.



	pleased		if
The man is	sorry	with the boys	because
	angry		when
	shouting		while

	window.
they broke his	house.
	door.
	wall.

The man is _____ with the boys _____ they broke his _____.

Item 19

Read the story and answer the questions:

One day Jabulani is walking next to the river. He looks into the river. He sees a big piece of gold in the river. The gold is round and shiny.

Jabulani wants the piece of gold. It is worth a lot of money.

Jabulani looks again. The gold is still there. Jabulani leans over the river. He puts out his hands to pick up the gold. He falls into the river. When he stands up, Jabulani sees that the gold is not real. It is only the sun. The sun is shining on the water. The sun looks like gold when it shines on the water. Jabulani is now very sad.

In this story:

1. Where is Jabulani?

Jabulani is walking next to the river.

2. What does Jabulani see?

Jabulani sees a piece of gold in the river.

3. Why does Jabulani want the gold?

Jabulani wants the gold because _____
_____ .

4. What does Jabulani do?

Jabulani puts out _____
_____ .

5. Where does Jabulani fall?

Jabulani falls _____.

6. What is it that looks like gold?

The gold is really _____.

7. Why is Jabulani very sad now?

He is very sad because _____.

Item 20

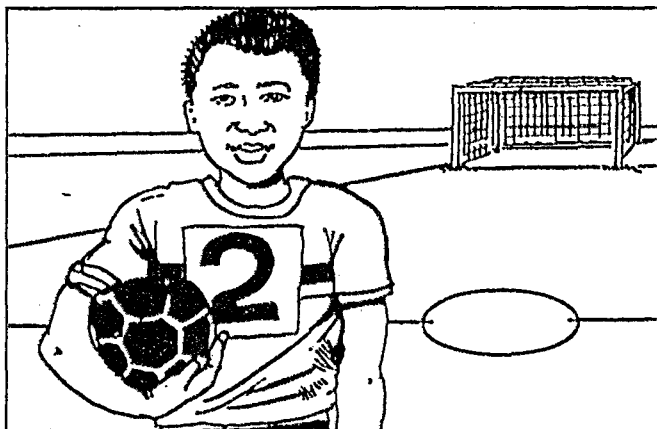
Read the story and answer the questions:



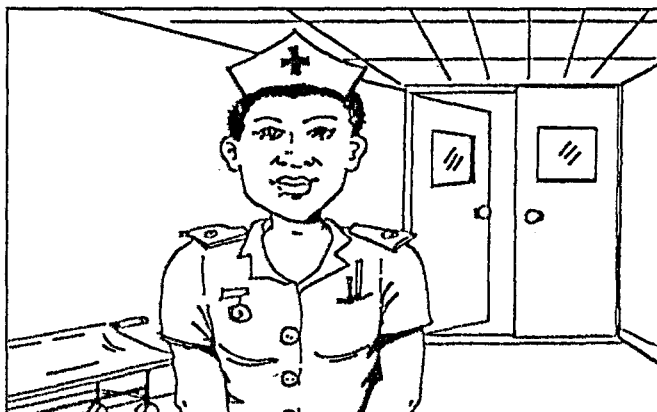
1. Who is Thabo phoning? The teacher
2. What does Thabo say? He is ill.
3. What does the man ask? _____
4. What does Thabo answer? _____
5. Does the man believe him? _____
6. What does the man say? _____
7. Is Thabo telling the truth? _____

Item 21

Look at these people



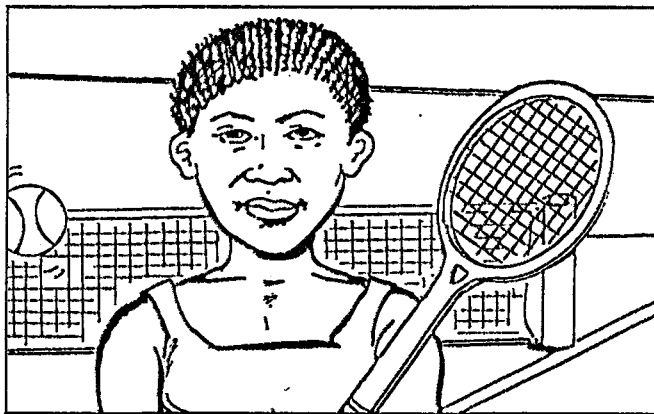
I am Simon Banda.
My team is Naledi Stars.
We play soccer.
We win because we drink **Icy Cola**.



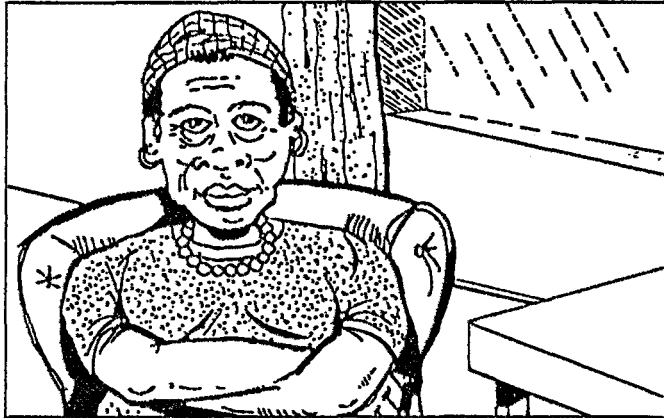
My name is Esther Dube.
I am a nurse.
I wash my hands with **Sunny Soap**.
Clean hands keep you healthy.



I am Gugu Mwali.
I grow food for people.
The best food is **Mandla Mealie meal**.
It is good and healthy.



My name is Mary Khoza.
I like to play tennis.
I use **Young Skin Cream**.
It keeps me beautiful.



I am Miriam Ngomane.
I am very old.
Old people are very clever.
We buy from **Save Stores**.



I am Sibusiso Sibiya.
A policeman needs to be strong.
I eat lots of **Big Bull Beef**.
It is real food for a man.
It is strong.

Answer these questions:

1. Who drinks **Icy Cola**?

Simon Banda

2. What food does Gugu Mwali like best?

Mealie Meal

3. Who washes with **Sunny Soap**?

4. What food does Sibusiso Sibiya like?

5. Where does Miriam Ngomane buy things?

6. What cream does Mary Khoza use?

7. Who says meat is good for men?

Item 22

Look at this bus timetable

<u>No.</u>	<u>Leaves</u>	<u>Stop 1</u>	<u>Stop 2</u>	<u>Stop 3</u>
1	Kanyamazane 8.00 a.m. 10.00 a.m. 1.00 p.m.	Kabokweni 8.45 a.m. 10.45 a.m. 1.45 p.m.	White River 9.30 a.m. 11.30 a.m. 2.30 p.m.	Sabie 11.00 a.m. 1.00 p.m. 4.00 p.m.
2	Nelspruit 7.00 a.m. 7.30 a.m. 8.00 a.m.	Kanyamazane 7.30 a.m. 8.00 a.m. 8.30 a.m.	Matsulu 8.00 a.m. 8.30 a.m. 9.00 a.m.	Shongwe 9.00 a.m. 9.30 a.m. 10.00 a.m.
3	Barberton 6.00 a.m. 11.30 a.m. 4.00 p.m.	Ekulindeni 7.30 a.m. 1.00 p.m. 5.30 p.m.	Mpuluzi 8.30 a.m. 2.00 p.m. 6.30 p.m.	

Answer these questions:

1. When does the 8.00a.m. bus from Kanyamazane get to Sabie?

11.00 a.m.

2. Where is the 7.30 a.m. bus from Nelspruit at 8.30 a.m.?

Matsulu

3. When does the 1.00 p.m. bus from Kanyamazane get to Kabokweni?

4. Where is the 6.00 a.m. bus from Barberton at 8.30 a.m.?

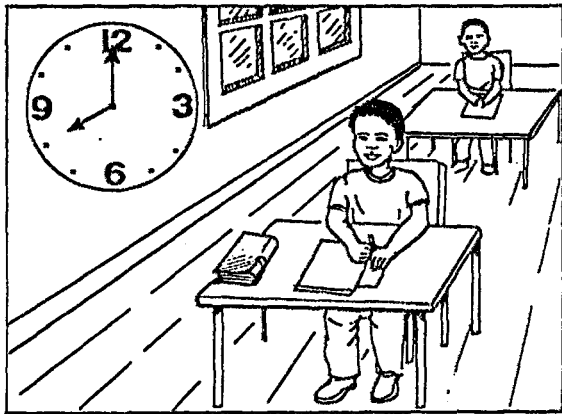
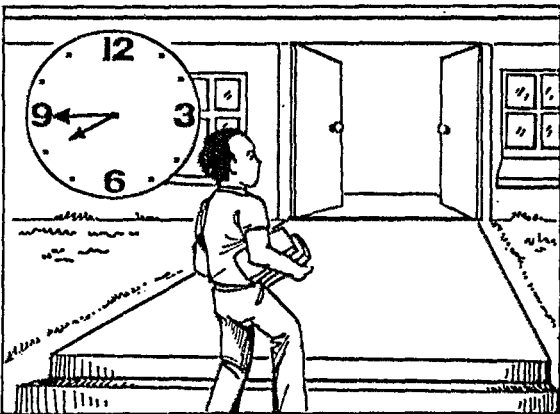
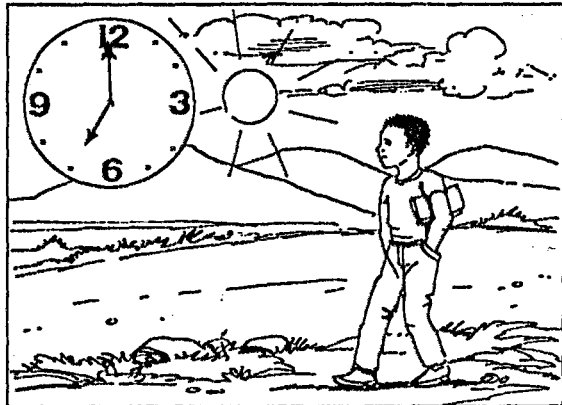
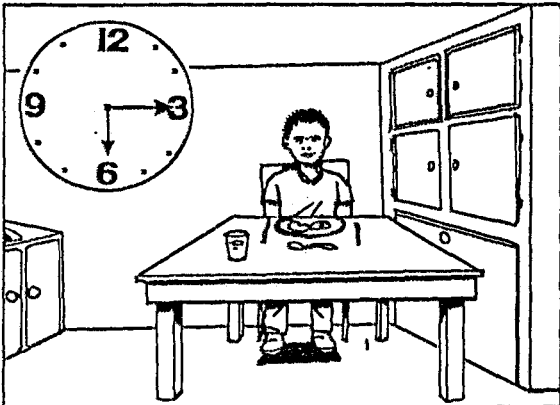
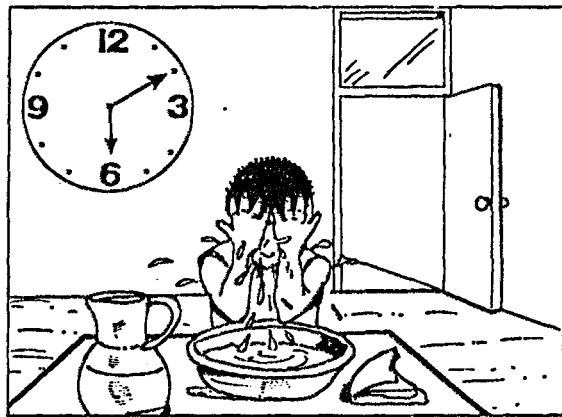
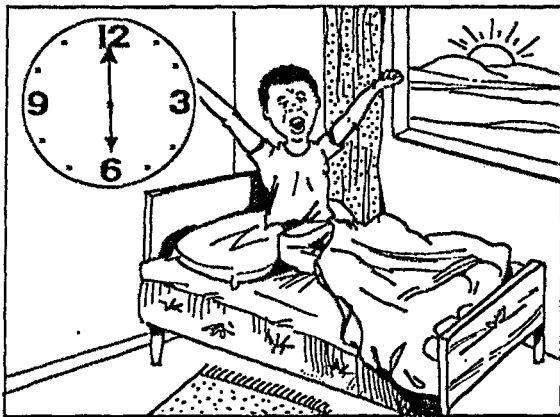
5. When did the 8.30 a.m. bus from Matsulu leave Nelspruit?

6. Where do all the buses to Ekulindeni leave from?

7. How long does it take a bus to get from Kanyamazane to Shongwe?

Item 23

Look at the pictures and answer the questions:



Answer YES (✓) or NO (x)

1. The boy gets up at six o'clock.

☒

2. He does not wash his face.

☒

3. He eats breakfast at quarter past six.

☐

4. He goes to school by bus.

☐

5. He carries his books to school.

☐

6. He gets to school at half past seven.

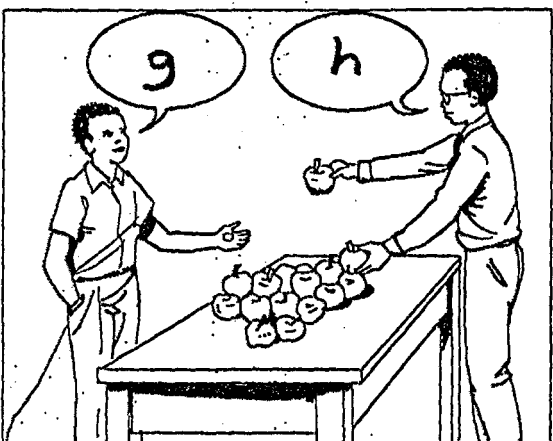
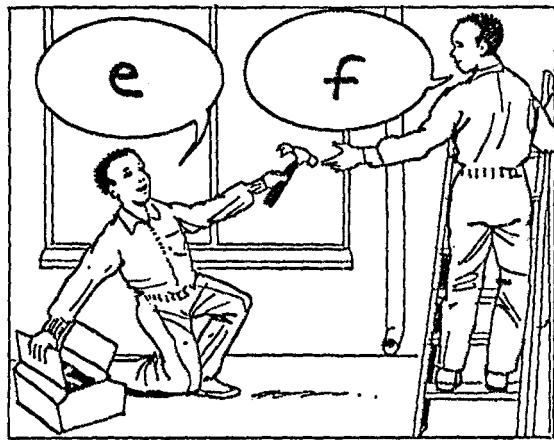
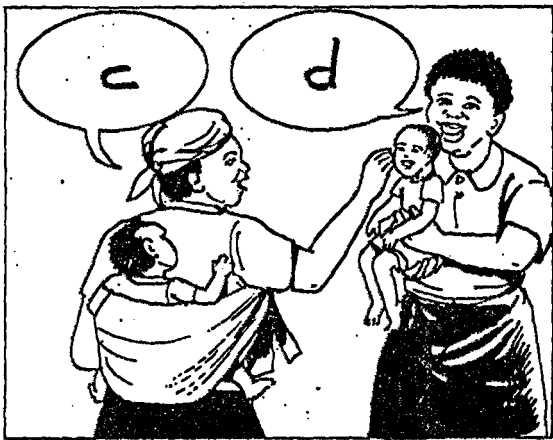
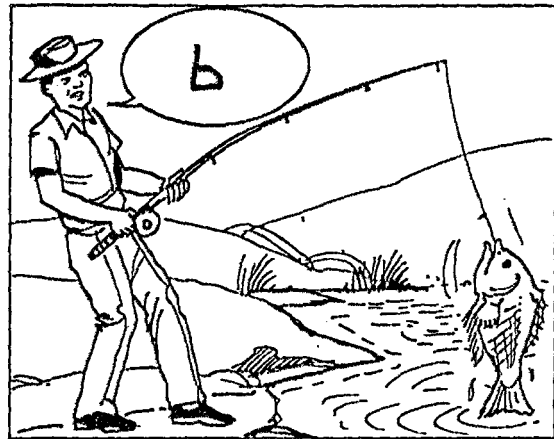
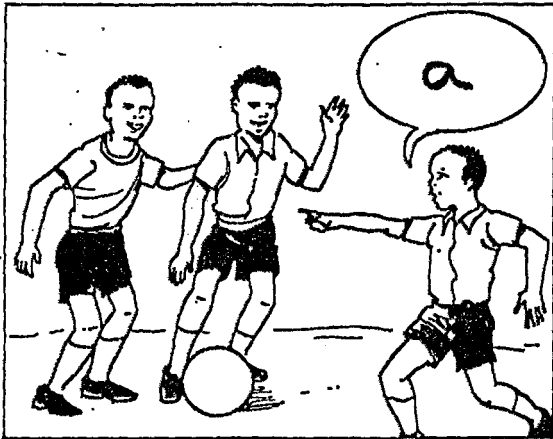
☐

7. School starts at eight o'clock.

☐

Item 24

Look at the pictures and answer the question:



Which letter from the pictures is right for the sentence?:

1. What a big fish!

b

2. Kick the ball!

a

3. Please give me one apple.

4. Please give me the hammer.

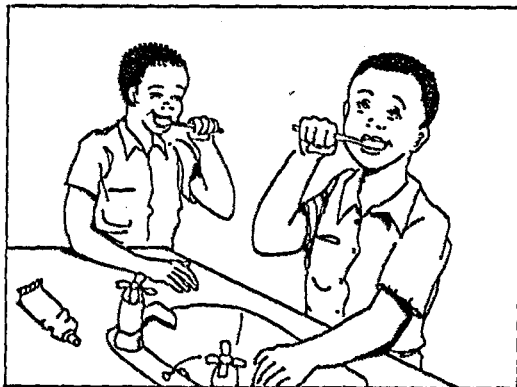
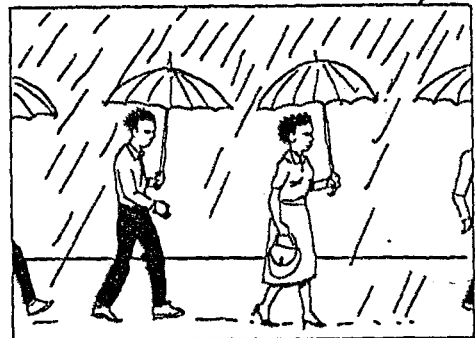
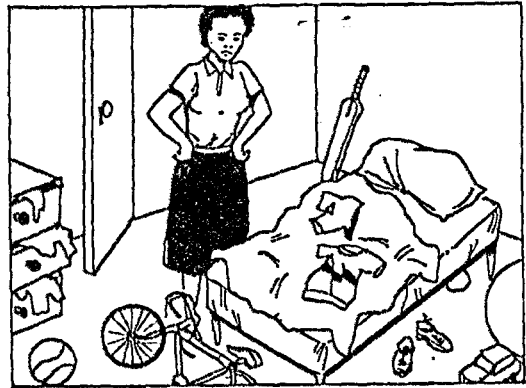
5. Here it is.

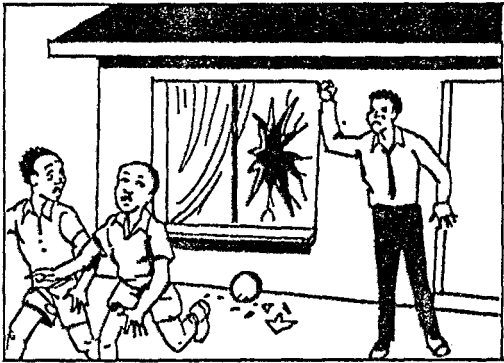
6. What a beautiful girl.

7. Here is my baby.

Item 25

Look at the pictures and answer the question:



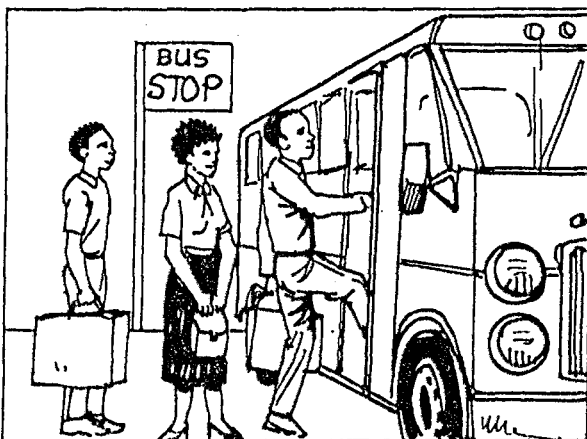
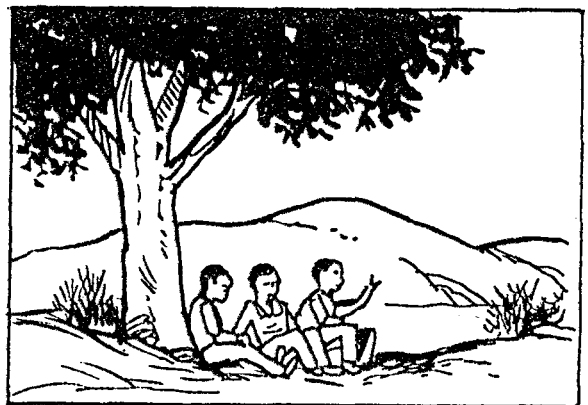
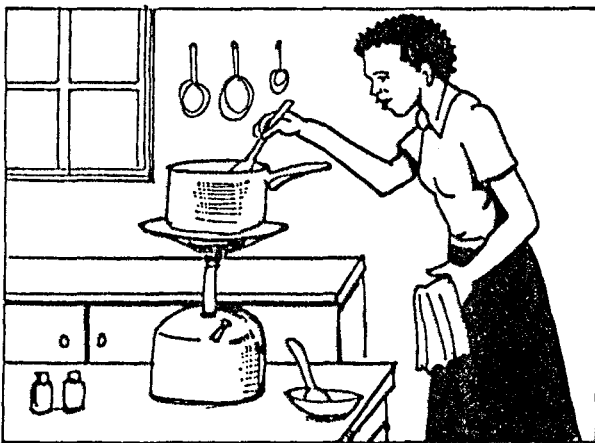


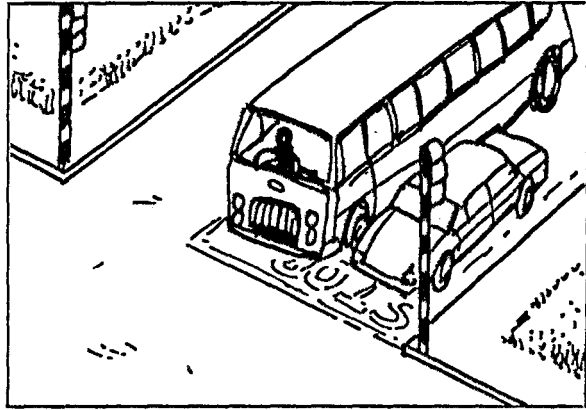
Match the columns:

- | | |
|--------------------------------------|------------------------------------|
| 1. The hunter is proud because | they brush them every day. |
| 2. Mother is cross because | they are playing with their boats. |
| 3. The girl is happy because | the boys broke his window. |
| 4. The people have umbrellas because | he shot a lion. |
| 5. The girls have good teeth because | the room is in a mess. |
| 6. The boys are happy because | she helped mother bake a cake. |
| 7. The man is angry because | it is raining. |

Item 26

Look at the pictures and fill in the missing words:





Fill in these missing words:

at down behind onto under on into

1. The boy is running down the hill.
2. The woman is walking into the shop.
3. Mother is cooking _____ the stove.
4. The children are sitting _____ the tree.
5. The man is climbing _____ the bus.
6. The hunter is hiding _____ the bush.
7. The car is waiting _____ the robot.

Item 27

Look at this money; each piece is called a coin:



Answer these questions:

1. How many **One Rand** coins are there?

four

2. What coin is between a **five cents** and a **one cent**?

two cents

3. How many **one cent** coins are there?

4. How many **ten cent** coins are there?

5. What coin is between a **ten cents** and a **one cent**?

6. How **many** coins are there altogether?

7. How **much** money is there altogether?

Item 28

Look at this TV guide:

DAY	TIME	TV 1	CCV	TSS
Thursday	1.00 2.00 3.00 4.00	News Larry King Bible Story Felix the Cat	Izindaba Kideo Fashion Fun Loving	Young Reader Teleschool Matric English Sesame Street
Friday	1.00 2.00 3.00 4.00	News Santa Barbara P.S. I Luv You Danger Bay	Izindaba Top 20 Win a Million Sugar & Spice	Animals of Asia Viva Families Travel to Japan Science World
Saturday	1.00 2.00 3.00 4.00	News Top Sport Horse Racing Motor Sport	Izindaba Pumpkin Patch Teen Time Movie Magic	Beyond Tomorrow Africa in Focus Children of the World The Story of Flight

Questions:

1. What programme is on TV1 at 3.00 on Thursday?

Bible Story

2. When can you watch Science World on TSS?

Friday 4.00

3. What programme is on CCV at 2.00 on Friday?

4. What programme is at 1.00 every day on TV1?

5. At what time can you watch **Kideo** on CCV?

6. At what time can you watch a programme about sport?

7. Are most of the education programmes on TV1, CCV or TSS?

APPENDIX E

NOTES FOR TESTERS

ADMINISTRATION

1. Testers should travel together to each school: two testers should administer each test.
2. At each school, take every second or third name from an alphabetical register of all the children in a standard to get a group of 30 - 33 pupils from the level to be tested (SSA, SSB or Std 1). Seat the pupils so that they cannot see one another's work. The teacher should not be present when the test is conducted, except at the beginning of the SSA test when she may be needed to help give the children their instructions in SiSwati.
3. As an ice-breaking activity, get the children to sing a song or recite a rhyme. Ask a few their names. Show them the sweets and tell them they will each get one after the activity. (Avoid using the word "test.") Then administer the test as below.
4. Casually invite the teacher to do the test as well, without putting her name on the paper; however, do not press her. Teachers' testpapers should simply be marked T or Teacher.
5. Make sure all papers are collected after the test. Do not give the teacher a copy to keep. Seal completed papers and spares in an envelope marked for that school. Return to Co-ordinator on Friday afternoon.
6. When all papers have been collected, give each of the children a sweet, invite them to sing another song, thank them and dismiss the group.

SISWATI TEST

1. Hand each pupil a test. Give the following instructions:
"Bukisisa lamaphepha.
Kubhalwe imibuto.
Bukisisa Item
Bukisisa futsi letibonelo lesikwentele tona.

Letibonelo tikhombisa wena kutsi uyiphendvule kanjani lemibuti ngalokufanele.
 Tibukisise futsi letibonelo.
 Manje nawe sewungazama kuphendvula lemibuko ngalokufanele"

*["Look at your papers.
 There are some questions.
 Look at Item 1.
 Look at the examples that have been done for you.
 Look at the first one.
 The examples show you how to answer these questions correctly.
 [Show pupils first two examples.]
 Now you can try to do the rest yourself."*

Repeat for each item.

2. Let the children try to do *each* item themselves. Note how long it takes most of them to do as much as they can. When all who can complete the item have done so (approx. 10 minutes), move on to the next question. Repeat the instructions and show them the first two examples. Note the time taken for each item in the first two schools and limit other schools to that time.

ENGLISH TESTS

1. Hand each pupil a test. The tester should then give the following instructions in English:

"Look at your papers. There are some questions. They are called 'Items'.
 Look at the first one. It says, [*Read instruction*].
 Look at number 1. [*Show and do first two examples*].
 Look at the next page. [*Show and do first two examples*].
 Now try to do the others yourself."
2. Let the children try to do *each* item themselves. Note how long it takes most of them to do as much as they can. When all who can complete the item have done so (approx. 10 minutes), move on to the next question. Repeat the instructions and show them the first two examples. Note the time taken for each item in the first two schools and limit other schools to that time.

NB: No more than an hour should be allowed for an entire test.

APPENDIX F

SUMMARY OF STATISTICAL ANALYSES OF TEST RESULTS

[Prepared by Mrs Sarah Radloff of the Department of Mathematical Statistics at Rhodes University from data supplied by the researcher.]

FILE 1990 SSA

	Mode	Median	Std.Dev.	Discrimination Index	Index of Difficulty	Index of Reliability
Perc 3 items	43,33	47,62	27,2987	0,0023	0,4554	≈ 0
Perc 4 items	32,50	35,71	20,4740	0,0023	0,2559	≈ 0

PARAMETRIC TEST

Area	Test	MOLTENO		NON-MOLTENO		t-Stat.	p-value
		Mean	Size	Mean	Size		
Kangwane Only	3 items	54,2	252	47,7	172	2,41	0,0164*
Kangwane Only	4 items	40,6	252	35,8	172	2,41	0,0164*

NON-PARAMETRIC TEST

Area	Test	Mann-Whitney statistic	p-value
Kangwane Only	3 items	24714,0	0,0141*
Kangwane Only	4 items	24714,0	0,0141*

* Significant at 5%

FILE 1991 SSA

	Mode	Median	Std.Dev.	Discrimination Index	Index of Difficulty	Index of Reliability
Score 1	8,00	8,00	2,8285	0,0083	0,6694	0,4087
Score 2	8,00	9,00	3,3886	-0,0355	0,6454	0,6835
Test 1	2,67	2,67	0,9428			
Test 2	2,67	3,00	1,1295			
Perc 1	53,33	53,33	18,8563			
Perc 2	53,33	60,00	22,5905			

PARAMETRIC TEST

Area	Test	MOLTENO		NON-MOLTENO		t-Statistic	p-value
		Mean	Size	Mean	Size		
Kangwane Only	1	8,51	89	7,19	32	2,30	0,0231*
	2	8,41	118	8,27	22	0,17	0,8659

* Significant at 5%

NON-PARAMETRIC TEST

Area	Test	Mann-Whitney statistic	p-value
Kangwane Only	1	1729,0	0,0702
	2	1393,0	0,5849

FILE 1992 SSA

	Mode	Median	Std.Dev.	Discrimination Index	Index of Difficulty	Index of Reliability
Score 1	8,00	7,00	3,5377	0,0921	0,4539	0,6717
Score 2	#	7,00	3,0195	0,2188	0,4286	0,5662
Test 1	2,67	2,33	1,1792			
Test 2	#	2,33	1,0065			
Perc 1	53,33	46,67	23,5844			
Perc 2	#	46,67	20,1299			

Not Unique

PARAMETRIC TEST

		MOLTENO		NON-MOLTENO		t-Statistic	p-value
Area	Test	Mean	Size	Mean	Size		
Kangwane Only	1	7,76	209	5,15	95	6,35	< 0,0001**
	2	6,80	61	0,00	2	3,39	0,0012**

** Significant at 1%

NON-PARAMETRIC TEST

Area	Test	Mann-Whitney statistic	p-value
Kangwane Only	1	14276,0	< 0,0001**
	2	122,0	0,0163*

* Significant at 5%

** Significant at 1%

FILE 1994 SSA

	Mode	Median	Std.Dev.	Discrim. Index	Index of Difficulty	Index of Reliability
Score	6,00	6,00	2,6314	0,0298	0,3781	0,5774
Test	2,00	2,00	0,8771			
Perc	40,00	40,00	17,5424			

PARAMETRIC TEST

	MOLTENO		NON-MOLTENO		t-statistic	p-value
	Mean	Size	Mean	Size		
PERC	54,47	100	37,56	101	7,78	< 0,0001 **
Score	8,17	100	5,63	101		

NON-PARAMETRIC

	Mann-Whitney Statistic	p-value
PERC & Score	7806,0	< 0,0001 **

** Significant at 1%

FILE 1991 SSB

	Mode	Median	Std.Dev.	Discrimination Index	Index of Difficulty	Index of Reliability
Score 1	7 or 8	8,00	2,5249	-0,0932	0,5975	0,4251
Score 2	15,00	9,00	4,3398	-0,0682	0,5947	0,7937
Test 1	2,3 or 3,7	2,67	0,8416			
Test 2	5,00	3,00	2,0927			
Perc 1	46,7 or 53,3	53,33	16,8330			
Perc 2	100,0	60,00	28,9321			

PARAMETRIC TEST

Area	Test	MOLTENO		NON-MOLTENO		t-Statistic	p-value
		Mean	Size	Mean	Size		
Kangwane Only	1	7,48	113	6,93	15	0,98	0,3308
	2	5,72	91	6,10	30	0,57	0,5728
Not Kangwane	1	9,52	92	8,81	16	1,00	0,3218
	2	11,23	103	11,75	40	0,79	0,4306

NON-PARAMETRIC TEST

Area	Test	Mann-Whitney statistic	p-value
Kangwane Only	1	986,0	0,2995
	2	1212,0	0,3558
Not Kangwane	1	836,5	0,3815
	2	1992,0	0,7570

FILE 1992 SSB

	Mode	Median	Std.Dev.	Discrimination Index	Index of Difficulty	Index of Reliability
Score 1	5,00	5,00	2,7804	-0,2048	0,1229	-0,4680
Score 2	15,00	12,00	4,3350	0,2093	0,6597	0,7464
Test 1	1,25	1,25	0,6951			
Test 2	3,75	3,00	1,0837			
Perc 1	25,00	25,00	13,9017			
Perc 2	75,00	60,00	21,6749			

PARAMETRIC TEST

Area	Test	MOLTENO		NON-MOLTENO		t-Statistic	p-value
		Mean	Size	Mean	Size		
Kangwane Only	1	6,34	173	5,17	119	3,61	0,0004**
	2	9,00	20	3,26	19	6,51	< 0,0001**
Not Kangwane	1		No data		No data		
	2	11,54	318	13,19	72	3,19	0,0016**

** Significant at 1%

NON-PARAMETRIC TEST

Area	Test	Mann-Whitney statistic	p-value
Kangwane Only	1	11883,5	0,0236*
	2	356,0	< 0,0001**
Not Kangwane	1	No data	
	2	8417,0	0,0004**

* Significant at 5%

** Significant at 1%

FILE 1994 STD 1

	Mode	Median	Std.Dev.	Discrim. Index	Index of Difficulty	Index of Reliability
Score	4 or 5	6,00	4,1424	0,0063	0,2405	0,7867
Test	1 or 1,25	1,50	1,0356			
Perc	20 or 25	30,00	20,7122			

PARAMETRIC TEST

	MOLTENO		NON-MOLTENO		t-statistic	p-value
	Mean	Size	Mean	Size		
PERC	46,90	79	21,01	79	10,05	< 0,0001 **
Score	9,38	79	4,20	79		

NON-PARAMETRIC

	Mann-Whitney Statistic	p-value
PERC & Score	5428,5	< 0,0001 **

** Significant at 1%

FILE 1992 STD 1

	Mode	Median	Std.Dev.	Discrimination Index	Index of Difficulty	Index of Reliability
Score 1	17,00	11,00	5,2269	0,0280	0,6262	0,8120
Score 2	5,00	5,00	3,0244	0,1552	0,1124	0,5642
Score 3	2,00	3,00	3,2363	-0,0991	0,0586	0,6867
Test 1	4,25	2,75	1,3067			
Test 2	1,25	1,25	0,7561			
Test 3	0,50	0,75	0,8091			
Perc 1	85,00	55,00	26,1343			
Perc 2	25,00	25,00	15,1218			
Perc 3	10,00	15,00	16,1813			

PARAMETRIC TEST

Area	Test	MOLTENO		NON-MOLTENO		t-Statistic	p-value
		Mean	Size	Mean	Size		
Kangwane Only	1	5,96	29	2,20	20	4,59	< 0,0001**
	2	5,99	183	4,52	133	5,18	< 0,0001**
	3	4,91	130	1,66	92	8,45	< 0,0001**
Not Kangwane	1	11,37	288	14,63	91	5,96	< 0,0001**
	2		No data		No data		
	3		No data		No data		

** Significant at 1%

NON-PARAMETRIC TEST

Area	Test	Mann-Whitney statistic	p-value
Kangwane Only	1	488,5	< 0,0001**
	2	15986,5	< 0,0001**
	3	9769,5	< 0,0001**
Not Kangwane	1	7720,0	< 0,0001**
	2	No data	
	3	No data	

** Significant at 1%

FILE 1994 STD 2

	Mode	Median	Std.Dev.	Discrim. Index	Index of Difficulty	Index of Reliability
Score	5,00	6,00	3,6336	- 0,0789	0,2105	0,6456
Test	1,25	1,50	0,9084			
Perc	25,00	30,00	18,1681			

PARAMETRIC TEST

	MOLTENO		NON-MOLTENO		t-statistic	p-value
	Mean	Size	Mean	Size		
PERC	37,65	98	23,80	54	4,82	< 0,0001 **
Score	7,53	98	4,76	54		

NON-PARAMETRIC

	Mann-Whitney Statistic	p-value
PERC & Score	3872,0	< 0,0001 **

** Significant at 1%

FILE 1994 SIS 2

	Mode	Median	Std.Dev.	Discrim. Index	Index of Difficulty	Index of Reliability
Score	12,00	10,50	2,4819	0,0693	0,8416	0,5914
Test	4,00	3,50	0,8273			
Perc	80,00	70,00	16,5462			

PARAMETRIC TEST

	MOLTENO		NON-MOLTENO		t-statistic	p-value
	Mean	Size	Mean	Size		
PERC	72,31	104	59,80	98	5,79	< 0,0001 **
Score	10,85	104	8,97	98		

NON-PARAMETRIC

	Mann-Whitney Statistic	p-value
PERC & Score	7219,0	< 0,0001 **

** Significant at 1%

FILE 1993 JCI

	Mode	Median	Std.Dev.	Discrim. Index	Index of Difficulty	Index of Reliability
Score	14,00	9,00	4,3734	- 0,0217	0,50	0,7086
Test	3,50	2,25	1,0934			
Perc	70,00	45,00	21,8672			

PARAMETRIC TEST

	BTL		NON-BTL		t-statistic	p-value
	Mean	Size	Mean	Size		
PERC	61,67	24	30,68	22	6,80	< 0,0001 **
Score	12,33	24	6,14	22		

NON-PARAMETRIC

	Mann-Whitney Statistic	p-value
PERC & Score	481,5	< 0,0001 **

** Significant at 1%

FILE 1994 HSRC

	Mode	Median	Std.Dev.	Discrim. Index	Index of Difficulty
Score	12,00	12,00	4,9326	- 0,0143	0,0429
Perc	30,00	30,00	12,3315		

PARAMETRIC TEST

		MOLTENO		NON-MOLTENO			
		Non-guessers		Non-guessers			
		Mean	Size	Mean	Size	t-statistic	p-value
PERC		29,79	24	27,10	25	0,78	0,4407
Score		11,92	24	10,84	25		

		MOLTENO		MOLTENO			
		Non-guessers		guessers			
		Mean	Size	Mean	Size	t-statistic	p-value
PERC		29,79	24	28,69	21	0,33	0,7414
Score		11,92	24	11,48	21		

NON-PARAMETRIC

MOLTENO/NON-MOLTENO Non-guessers	Mann-Whitney Statistic	p-value
PERC & Score	318,0	0,7177

MOLTENO Non-guessers/guessers	Mann-Whitney Statistic	p-value
PERC & Score	251,5	0,9909

FILE 1994 WALKER

	Mode	Median	Std.Dev.	Discrim. Index	Index of Difficulty	Index of Reliability
Score	14,00	10,00	4,8352	- 0,0055	0,0056	0,5282
Test	7,00	5,00	2,4176			
Perc	28,00	20,00	9,6705			

PARAMETRIC TEST

	MOLTENO		NON-MOLTENO		t-statistic	p-value
	Mean	Size	Mean	Size		
PERC	22,50	103	18,16	76	3,04	0,0027 **
Score	11,25	103	9,08	76		

NON-PARAMETRIC

	Mann-Whitney Statistic	p-value
PERC & Score	4854,5	0,0059 **

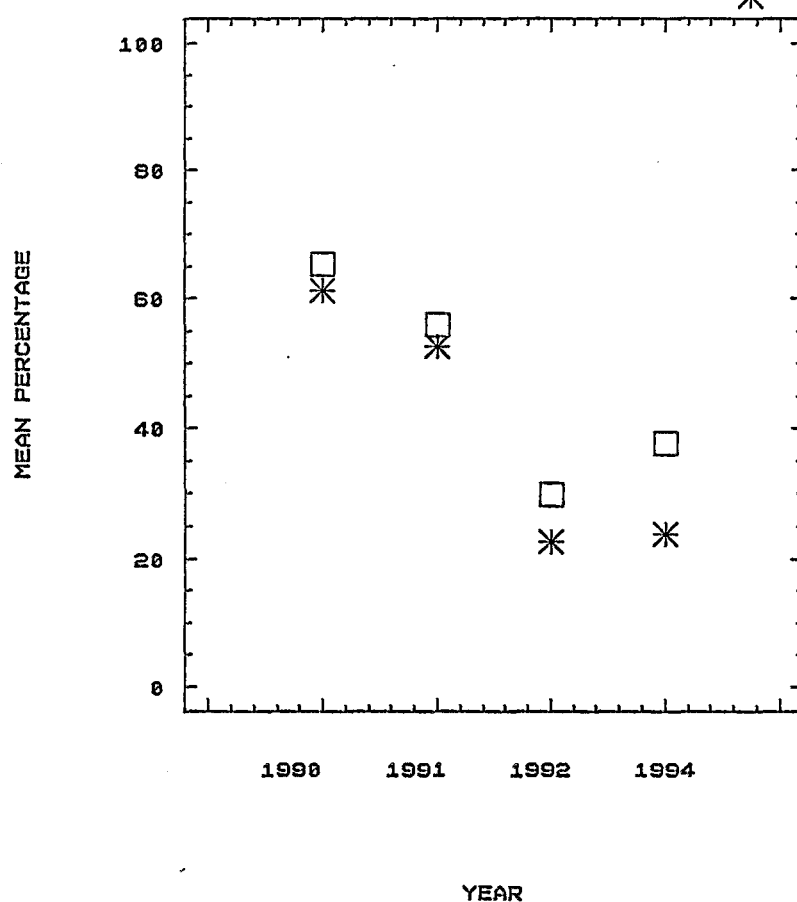
** Significant at 1%

MEAN PERCENTAGE MARKS

1990 - 1994

□ MOLTENO

* NON-MOLTENO

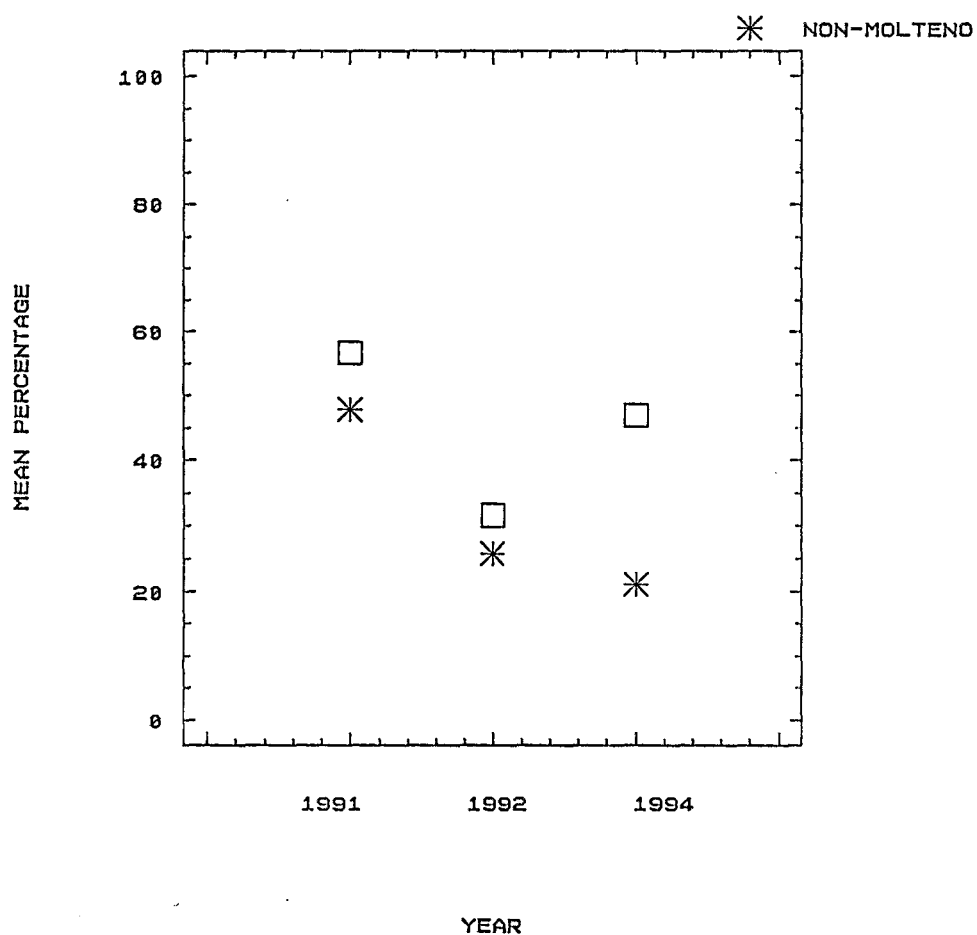


MEAN PERCENTAGE MARKS

1991 - 1994

□ MOLTEND

* NON-MOLTEND

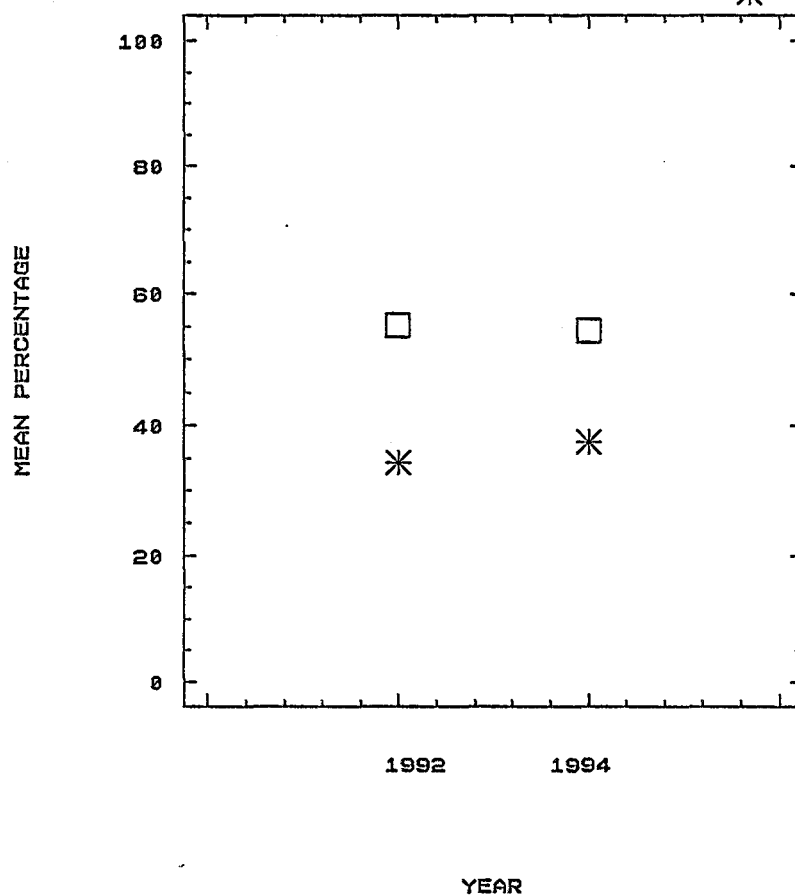


MEAN PERCENTAGE MARKS

1992 - 1994

□ MOLTENO

* NON-MOLTENO



APPENDIX G

SIMPLIFIED ANSWER SHEET

FOR

HSRC TEST

ANSWER SHEET

- | | | | | | | | |
|-----|---|---|---|-----|---|---|---|
| 1. | A | B | C | 21. | A | B | C |
| 2. | A | B | C | 22. | A | B | C |
| 3. | A | B | C | 23. | A | B | C |
| 4. | A | B | C | 24. | A | B | C |
| 5. | A | B | C | 25. | A | B | C |
| 6. | A | B | C | 26. | A | B | C |
| 7. | A | B | C | 27. | A | B | C |
| 8. | A | B | C | 28. | A | B | C |
| 9. | A | B | C | 29. | A | B | C |
| 10. | A | B | C | 30. | A | B | C |
| 11. | A | B | C | 31. | A | B | C |
| 12. | A | B | C | 32. | A | B | C |
| 13. | A | B | C | 33. | A | B | C |
| 14. | A | B | C | 34. | A | B | C |
| 15. | A | B | C | 35. | A | B | C |
| 16. | A | B | C | 36. | A | B | C |
| 17. | A | B | C | 37. | A | B | C |
| 18. | A | B | C | 38. | A | B | C |
| 19. | A | B | C | 39. | A | B | C |
| 20. | A | B | C | 40. | A | B | C |