

**METALINGUISTIC AWARENESS IN A GROUP OF KWAZULU  
NATAL BEGINNER READERS**

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### DECLARATION

I declare this dissertation, unless specifically indicated to the contrary in the text, is my own, original work. It is being submitted for the degree of Master of Education (Educational Psychology), in the University of Natal, Pietermaritzburg. It has not been submitted before for any degree or examination in any other University.

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## ABSTRACT

This study evaluates beginner readers on three aspects of metalinguistic awareness as measured by Metalinguistic Awareness Interview Schedule (Dreher & Zenge, 1990), the understanding of reading as a meaning-gathering process; the ability to isolate language segments (sentences, words and letters); knowledge of terms used in reading instruction, as well as some basic concepts about print, as measured by the adapted Concepts About Print test (Clay, 1979). Individual interviews were conducted with a socioculturally diverse group of first grade pupils attending two schools on the Upper South Coast of KwaZulu Natal. Whilst considering the performance of the group as a whole, attention was also given to the three different language culture subgroups, and to second language learners who represented 40% of the sample. Consistent with earlier research carried out in other countries the results of this study confirmed that many of these beginner readers had only demonstrated a partial acquisition of metalinguistic abilities and a limited understanding of concepts about print as assessed by the two measurements. These confusions were described and their implications for teaching practice discussed.

At the end of the subjects' grade one year a follow-up procedure was conducted to examine academic achievement in various aspects of English, and in Mathematics. In addition, readiness for grade two was also considered. These results indicated that much of the earlier confusion as demonstrated on the two measurement instruments had been resolved through instruction and mediation in the classroom. The implications of the findings, the limitations of the study and some suggestions for further research are discussed.

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## CHAPTER ONE

### INTRODUCTION

#### 1.1 Relevance of Research Area

The task of acquiring skill in reading is of paramount importance for children entering the first phase of formal education at approximately six years of age. This study has aimed at bringing into focus the level of skill acquisition regarded as being of importance to beginning readers in a typical South African educational context. Some will enter grade one 'more privileged' with well developed oral language and literacy experiences that have accumulated during their preschool years. Others will commence school with less well developed oral language skills and a paucity of literary experiences which may impact upon their introduction to the reading process. In addition there will be others who enter grade one with little literacy and language experience whose difficulties may be compounded by their being second language learners.

The South African situation is in some ways unique due to the specific nature of the diversity to be found in the multicultural classroom. Hernandez (1992) points out that students who are non-English language dominant must be distinguished from those who are members of particular ethnic groups but are English language dominant. She continues that these children experience different problems in school which need to be approached differently in terms of policy and research (Underwood, 1986; cited in Hernandez, 1992). Although she is writing about the United States these problems are analogous of those facing education in South Africa today.

There are some pertinent questions which need to be explored relating to the skills that beginning readers bring to the situation when they are initially exposed to the formal learning situation.

Research in the area of reading acquisition suggests that these questions should revolve around what expectations may be realistically held in regard to the level of metalinguistic awareness the young child has developed upon entry into grade one.

## 1.2 Background to Research

Teachers may overestimate or underestimate a child's linguistic development. In either case instruction may not be optimally beneficial. Clay (1985) asserts that determining the child's level of acquisition from the outset ensures that the teacher never wastes valuable learning time on teaching something that the child does not need to learn; something that he already knows. As Clay aptly puts it, "From sound theory of the reading process the child is taught...how to carry out operations to solve problems in text, how to monitor his reading, how to be an independent processor of print" (1985, p. 4). Diverse backgrounds and varying preschool experiences, amongst a host of other factors, make the teachers task undeniably difficult.

It is, therefore, expedient to determine as early as possible the school beginner's level of functioning regarding certain aspects of metalinguistic awareness as well as some basic concepts about print. As Clay (1985) has pointed out in her research, gathering data on school beginners has shown that many beginning readers are confused over what may be regarded as basic concepts. For the five or six-year old school beginner directionality is a major task in beginning reading, a task which should not be underestimated by educators.

Similarly, the analysis of spoken words into sounds can prove to be difficult for the child unless special help is provided. Quite foreign to many of these young learners is the concept that print sequence in books is related to a sequence of spoken words. Clay (1979) also found that up to the age of eight years children confuse isolated sounds and syllables with words. There are many further examples which may be used to illustrate beginning readers' confusions. In the present study there are also the additional problems faced by second language pupils, because as well as acquiring contextual communicative language skills they also need formal academic language skills to enable them to meet the demands of the curriculum. The latter skills emphasize metacognitive and concept related applications of language usage that are more dependent upon literacy skills than context.

### 1.3 Rationale

Being able to describe the specific nature of the confusion that beginners experience when they start to learn to read should assist the teacher to facilitate the reading acquisition process. Although correlational research has sought to characterize the children who find reading difficult there is rather less focus in the literature on the learning task itself and on the successive stages through which the child passes on the way to successful mastery of reading skills (Byrne, 1992). Issues surrounding metalinguistic awareness and early concept formation in the area of literacy need to be understood if a preventative rather than a remedial model is followed.

Clay (1979) defines reading as "a message-gaining, problem solving activity, which increases in power and flexibility the more it is practised" (p. 6). In her later work Clay describes four different areas of learning that facilitate

reading. Firstly, and most important, reading involves messages expressed in language. However, the kind of oral language control that children bring to the reading situation differs from the language that they are presented with in books in important ways. Secondly, reading requires the child to follow directionality rules, and to attend to spaces between words and to be aware of punctuation. Thirdly, the beginning reader is presented with visual patterns that include clusters of words, syllables, blends and letters, depending upon how the patterns are analyzed. Finally, the young child is faced with the problem of segmentation. The stream of oral language does not always make it easy to separate individual words in a sentence. Children thus have even more difficulty in breaking the word into its sequence of sounds, and of hearing individual sounds in sequence (Clay, 1985).

That metalinguistic ability is also associated with the development of the ability to read is confirmed by Dreher & Zenge (1990) in their research on first graders' metalinguistic awareness and later reading achievement. The first-grade metalinguistic abilities which they investigated align closely with Clay's facilitators of reading acquisition outlined above. Firstly, the child needs to understand the purpose of reading as a meaning-gathering process. Secondly, he should be able to identify language segments (letters, as well as word and sentence boundaries). Thirdly, he should also be able to define or give evidence of understanding terms used in reading instruction. The methods developed by Dreher & Zenge (1990) in the United States, as well as those of Clay (1979) in New Zealand, appear to be particularly suitable for use in the South African setting where many schools are a component of socioculturally diverse populations of children whose early literacy experiences range over a wide spectrum. In the United States the past decade has seen a dramatic increase in the number of pupils whose first language is not English. In the case of South

Africa the problem is one of pupils at different stages of English language acquisition and diverse sociocultural histories. Nurss & Hough (1992) point out that American class teachers have had to develop language and literacy instructional strategies appropriate for these second language students.

South African teachers are increasingly being faced with problems of how to promote literacy in English among students whose mother tongue is not the language of instruction. Slabbert (1992) documents this when she states that language proficiency (or the lack of it) is yet another problem among many South African students, mainly because of their preference for English as the medium of education.

Although there is a large body of literature dealing with metalinguistic awareness emanating from the United States, Europe, and Australasia there is little or nothing pertaining to the South African situation. Why this should be so is not clear, given that metalinguistic awareness in beginning readers, along with their concepts about print, has proven to be such a critical factor in the overall academic prognosis of the child. One possible explanation may be that most of the current South Africa debates surround sociopolitical issues as no national policy of language of instruction has been adopted.

#### **1.4 Hypotheses and Aims of Research**

Introducing a cautionary note James Hodgson (1992) refers to the Strong Metalinguistic Hypothesis of reading development which asserts that the processes of mature reading develop directly out of metalinguistic strategies that children adopt in the early phases of reading development. However, Kemper & Vernooy (1993) point out that discerning to what extent a child is consciously aware of language is not an easy task,

and that researchers should beware of imposing adult conceptions on the verbal and nonverbal communications of children.

With this caveat in mind the main aim of the current study is to describe the diversity of aspects of metalinguistic awareness and pre-reading behaviours by means of systematic observation of a socioculturally diverse group of school beginners. Questions to be explored are:

1. To what degree do these beginning readers exhibit an understanding of the purpose of reading and the content of books?
2. How familiar are they with basic concepts about print that tend to be taken for granted by adults?
3. May we assume that these beginners are easily able to identify sentences boundaries both aurally and visually?
4. Are they able to identify and isolate language units and do they understand basic instructional terms?

A follow-up procedure at the conclusion of their first year in grade one will allow some initial comparisons to be made between the subjects' protocols upon school entry and their academic achievement levels after the first year of reading instruction. It should, however, be emphasised that the main aim of the study is descriptive and not predictive in nature.

## 1.5 Summary

Beginning reading is a critical phase in the child's academic career. Oral language ability and preschool literacy experiences will vary considerably amongst school beginners and developmental skills will range over a wide continuum. The aim of this study has been to explore pertinent questions concerning the level of metalinguistic awareness and concepts about print that the young child manifests upon entry into grade one, including the second language learner who is



becoming more and more commonplace in the modern South African classroom.

\* Research has shown that metalinguistic awareness is associated with the ability to read and that young children's concepts about print are often underdeveloped or confused. Given that the acquisition of reading skills is not a straightforward or automatic process, the main thrust of the current research is to describe the beginning reader's levels of acquisition of those skills thought to promote effective and efficient reading and to gain insight into the development of literacy in the school beginner.

A proactive approach which assists beginning readers to achieve the necessary reading skills effectively and efficiently is what is required in the multicultural classroom. Metalinguistic abilities appear to play a key role in the success of the reading acquisition process and it is puzzling that little literature has emerged on the local front in this vital area of the child's education. If the current study can, in some small way, contribute to increased understanding in the processes involved in the acquisition of reading skills, the aim of the project will have been achieved.

With this study's strong emphasis on metalinguistic awareness it is now necessary to consider some definitions, developmental and historical aspects, as well as important theoretical issues, before continuing with the current research.

## CHAPTER TWO

### CONCEPTS OF METALINGUISTIC AWARENESS

#### 2.1 Historical Context

Over the past thirty years a considerable amount of research has been conducted investigating young children's understanding of literacy tasks. This research has shown clearly that metalinguistic awareness is associated with the development of the ability to read. Early studies that became seminal works for current metalinguistic research include Karpova (1955) in Russia, Vernon (1957) in England, and Reid (1966) in Scotland, which in turn influenced the work of Downing (1969, 1970, 1971, 1972, 1976) in Canada. These researchers concentrated on the young child's understanding of the purpose of reading and units of print. The mass of research that followed this pioneering work may be found in Appendix 1. Essential features of this research relating to the present study will be presented.

Early research carried out by Reid (1966) aimed to explore the general level of concept formation with regard to reading and writing present in beginner readers; how these concepts develop and the role they might possibly play in the actual acquisition of reading skills. The picture she describes is of a fair amount of confusion with children exhibiting certain linguistic and conceptual uncertainties about the nature of the material which they had to organise.

Downing (1969), a prolific researcher in this area, likened Reid's findings to those of Vygotsky (1962) of children's learning literacy in Russia, postulating that both may be related to Piaget's (1959) theory of the development of

language and thought. Downing replicated and extended the work done by Reid, confirming the hypothesis that beginner readers have difficulty in understanding the purpose of written language; that they only have a vague idea of how people read; that they have particular difficulty in understanding abstract terms like sentence, word, letter and sound.

In her study of children's experience of reading and notions of units in language Hazel Francis (1973) confirms the earlier findings, but differs from Downing, in attributing beginner readers' problems not to the children's limited cognitive abilities and abstract nature of the concepts with which they are presented, but to their unfamiliarity with an analytical approach to language and to the range and overlap of reference in the use of terms. Word, sentence, letter and sound, for example, are all related concepts with considerable areas of overlap in meaning. Francis concludes that difficulty in comprehending the technical vocabulary of reading instruction appears to be an integral part of the difficulty of learning to read. She concedes, however, that instructional terms become clearer to children between the ages of 5 years and 7 years, as they sought their meaning through use in relation to their reading materials.

Myers & Paris (1978) reached the conclusion that, in general, beginning readers have extremely limited understanding of the task dimensions and the need to apply strategies for reading, or that reading is a cognitive activity. Second graders' responses in their study manifested a perception of reading as an orthographic-verbal translation problem, rather than a search for meaning and a comprehension task.

Juel (1988) emphasised just how critical the role of phonemic awareness was in learning to decode words, and that it was important that decoding skills be firmly established in first grade. From another perspective Wright & Cashdan (1991) were

convinced that training phonological abilities, metalinguistic concepts and promoting metacognitive skills did increase backward readers' awareness of effective strategies for the solution of reading tasks.

X Parallel to the early developments mentioned above, research conducted by Vygotsky and Karpova in Russia offered explanations of different areas of children's thought and language development. This stimulated prolific work in the 1970's and 1980's which resulted in the following issues being raised:

- children's understanding of the purposes of reading;
- knowledge of units of print;
- ability to carry out segmentation tasks;
- ability to define instructional terms;
- understanding the relationships of speech to print;
- ability to name objects rapidly;
- phonological awareness;
- knowledge of the alphabet

Research has also tended to confirm that those children who are successful readers in first grade tend to retain this status in their subsequent school careers. Stanovich (1986) describes what he calls the 'Matthew effect' in reading, which works on the principle that the rich get richer and the poor get poorer due to the positive or negative experiences the pupil encounters as a beginning reader.

Growing awareness of the metalinguistic aspects of reading acquisition lead to theoretical debates with practical research taking up different positions with regard to emphasis. Dreher & Zenge (1990) have described four categories of research:

- (i) Metalinguistic awareness is a prerequisite for learning to read (Fischer, 1980; Mattingly, 1972, 1979, 1984; Rozin & Gleitman, 1977; Ryan, 1980).
- (ii) Reading itself leads to metalinguistic awareness;

it is the result of reading instruction (Cazden, 1974; Ehri, 1979).

- (iii) The relationship of metalinguistic awareness and learning to read is that of 'mutual facilitation' (Perfetti & Beck, 1982), or 'reciprocal causation' (Lieberman, Shankweiler, Fischer & Carter, 1974).
- (iv) Both learning to read and the development of metalinguistic awareness are the result of cognitive development that occurs in middle childhood (Tunmer & Herriman, 1984; Watson, 1984).

This study explores specific aspects of metalinguistic awareness and the concepts about print that beginning readers manifest upon entry into formal education in a multicultural setting. The above arguments will be duly considered in the light of the current literature.

## **2.2 Definitions and Implications**

The definitions of metalinguistic ability relate to those of metacognition. The basic premise is that pupils need to be made consciously aware of their own learning in order to improve the quality of that learning, which includes how and why they learn. Likewise metalinguistic awareness depends on the ability to use language to discuss and analyze linguistic concepts. Sutherland (1992) outlines the basic skills the child needs:

- (i) Predicting the consequences of an action;
- (ii) Checking the result of one's action;
- (iii) Monitoring one's ongoing activity;
- (iv) Reality testing.

In making use of these skills the child needs to question himself with regard to what will happen if he follows a certain course of action; he needs to judge how successful he has been; he needs to check his own progress; then he needs to evaluate the outcome of his action. Having

established what skills the child needs it is necessary to explore the findings of studies in the area.

### 2.2.1 Relationships between Metacognition and Metalinguistic Awareness

When exploring concepts and definitions of metalinguistic awareness or abilities it is impossible to do so without also considering the role metacognition plays in the early stages of reading. Pratt & Grieve (1984) describe metalinguistic awareness as the ability to reflect upon and talk about language as an object of thought. Metacognition is the knowledge and regulation of one's own cognitions or thoughts of others (Brown & Palincsar, 1982; Flavell, 1979). Vygotsky (1962) described two phases in the development of knowledge: first, its automatic, unconscious acquisition, followed by gradual increases in active, conscious control over that knowledge. As Brown (1980) has pointed out the distinction here is essentially the separation between cognitive and metacognitive aspects of performance.

Metacognition has also been the subject of considerable discussion. According to Erdos (1990) metacognition has a long tradition but a relatively short history. It entered the psychological literature around 1970 and has been gaining in popularity ever since, despite difficulties concerning its definition and its delimitation from other concepts such as consciousness. The cognitive processes involved in the overall framework of thinking include problem solving, decision making, evaluation and critical thinking, to name but a few. The metacognitive movement is very influential in Great Britain and the United States at present. Donaldson (1978), who has been strongly influenced by the metacognitive movement, feels that children must be given optimal help to show what they are actually capable of doing in natural situations and in language that they can understand. Sutherland (1992) describes it as focusing on children's awareness and understanding of their own learning,

particularly in an awareness of learning their home language.

Tunmer, Herriman & Nesdale (1988) explain metalinguistic ability as that which enables one to reflect on and manipulate the structural features of spoken language. Normal language is automatic but metalinguistic operations require central processing. Tunmer et al. define metalinguistic awareness as the ability to use control processing to perform mental operations on the products of the mental mechanisms involved in sentence comprehension.

The relationship between metalinguistic awareness and metacognition is that the former highlights the ability to reflect on, talk about and manipulate the structural features of spoken language, and the latter the knowledge and regulation of one's thoughts. The value of helping children towards optimal performance by making them aware of their own learning should not be ignored. This is especially important with regard to the home language, or, in the case of second language learners, the language of instruction.

Dreher & Zenge (1990) confirm that the definition of metalinguistic awareness is subject to considerable discussion. The whole issue is summed up succinctly in a quote from Holden (1986) who concedes that since her early use of the term to refer to "the awareness of the lexical content of oral language" and the ability to use language to discuss and analyze language (p.xi), it has developed to include, "awareness of such aspects of language as grammaticality, lexical items, phonemes and rhetorical devices, as well as awareness of speech to print regularities" (p.xii).

A useful classification system to discuss the various aspects of metalinguistic awareness has been proposed by Tunmer, Herriman & Nesdale (1988). They suggest four broad categories:

- (i) <sup>sound</sup> phonological awareness and
- (ii) word awareness: the ability to reflect and to manipulate the subunits of spoken language (phonemes and words);
- (iii) syntactic awareness: the ability to perform mental operations on the output of the mechanism responsible for assigning intersentential structural representations to groups of words;
- (iv) pragmatic awareness: the ability to perform mental operations on the output of the mechanism responsible for integrating individual propositions through the application of both pragmatic rules and inferential rules (Tunmer, Herriman & Nesdale, 1988).

In conclusion, metalinguistic awareness may be viewed as the conscious awareness of language, whether phonological, pragmatic, semantic or syntactic, and the deliberate conscious control of one's linguistic actions. Simply stated it is our knowledge of language and our ability to use language to describe linguistic activity. The relationship between metalinguistic awareness and metacognition cannot be ignored. Metacognition is our ability to know what we know and what we do not know (Costa, 1987). By making children aware of learning in this way the learning process may be facilitated.

### 2.2.2 Implications for Early Reading Acquisition

Sutherland (1992) argues that it is while learning to read that children need most help to become consciously aware of their own learning. This argument applies all the more



strongly to those who have difficulties in learning to read. For the disadvantaged child there are multiple factors which may negatively influence learning to read. These could include environmental influences; demographic features; family situation (or lack of it); physical development; general adaptiveness and motivation; biological aspects, including genetic problems, laterality, and neuropsychological factors; as well as immaturity and behaviour disorders.

In addition, that children's thinking is qualitatively different from that of adults was vividly illustrated by Karpova (1955) when he studied Russian children's understanding of the relationships amongst units of print, speech, and the reading process. This was one of the first reports on the development of metalinguistic awareness, although the actual terminology was only to appear some 20 years later. Karpova's work gives fascinating insights into the mind of the child. For example, when 3-7 year-olds were learning to isolate words in the body of a sentence the type of difficulty they encountered appeared to be semantic. Although perhaps these young children, particularly those in the upper age bracket, did know what words were, they simply did not have the concept of the word 'word', standing for a specific unit of language.

An implication of this could be that teachers may need to make their pupils more consciously aware of their own knowledge of language. A task not without difficulties, particularly when children receive instruction in a language other than their mother tongue. Pupils often follow instructions or complete assignments without ever wondering why they are doing what they are doing. They seldom question themselves about their own learning strategies or evaluate the efficiency of their performance. Some children have virtually no idea what they are doing when they perform a task, and are quite often unable to explain their strategies

for solving problems (Sternberg & Wagner, 1982). It may therefore be advantageous for beginner readers to be conscious of procedures and strategies used during the act of problem solving, and to reflect upon and evaluate how productive these cognitive efforts have been. While this argument may be logically appealing, what to make beginning readers aware of, and when, is not a clearly definable issue. If one looks at an important aspect of metalinguistic awareness such as phonological awareness, the complex issues surrounding the application of this theoretical framework to teaching beginner readers becomes evident.

Tunmer (1991) describes phonological awareness as the ability to reflect on and manipulate phonemic segments of speech; a developmentally distinct type of linguistic functioning that develops separately from, and later than, basic speaking and listening skills. Juel, Griffith & Gough (1986) state convincingly that phonological awareness underlies the development of word recognition and spelling activity. However, much of the research rejects the claim that awareness of phonemes is a prerequisite for learning to read, but rather that phonological awareness is largely an effect of learning to read. Conversely, direct evidence against the claim that phonological awareness is entirely a product of learning to read comes from studies where data was obtained before formal reading instruction began, showing it to be predictive of later reading achievement, even when children showing any preschool reading ability were excluded (Bradley & Bryant, 1983; Tunmer, Herriman & Nesdale, 1988) and when the influence of preschool reading ability was statistically partialled out (Vellutino & Scanlon, 1987).

Such conflicting details about metalinguistic awareness may continue to arise but the task of facilitating beginner readers continues to be of urgent concern particularly in the South African context. It is suggested that understanding how metalinguistic awareness develops may assist in clarifying

what the facilitator should be cognizant of at any point in the beginning reading process. Factors which are all important for the development of early reading skills should also be seen within a developmental context.

### 2.3 Developmental Model of Metalinguistic Awareness and Reading Ability

In the preliterate child various developments are occurring at many levels in a dynamic and integrated fashion. Those aspects of the developmental process particularly pertinent to the development of metalinguistic awareness have been somewhat artificially singled out from the dynamic array for the purposes of this discussion.

Metalinguistic ability, like metacognition, develops with the internal maturation of the child. This development will also be assisted by stimulation from the environment. In particular the development of language is a critical factor. Developmentally, success in reading appears to depend upon the child's logical and analytical abilities, linguistic awareness and concepts about print. Cognitive ability or 'intelligence' as measured by intelligence quotient (IQ) scores only seem to influence reading achievement indirectly. Perceptual-motor development and preferred modality have little influence on reading readiness (Adams, 1990). However, knowledge of letters and phonemic awareness have been found to bear firm relationships to success in the acquisition of reading, regardless of the reading programme and the instructional approach employed (Bond & Dykstra, 1967; Bradley & Bryant, 1983; Ehri, 1979; 1983; Fox & Routh, 1975; 1976; Gough & Hillinger, 1980; Liberman & Shankweiler, 1979; Morais, Cary, Alegria & Bertelson, 1979). Some of these important issues will be dealt with in greater detail.

### 2.3.1 Development of Metalinguistic Awareness

Three explanations of the origins of metalinguistic ability have appeared in the literature:

- (i) Metalinguistic ability develops side by side with the acquisition of spoken language and arises from error-detection mechanisms that monitor speech output (Marshall & Morton, 1978).
- (ii) Metalinguistic ability is a developmentally distinct type of linguistic functioning which develops separately from and later than, basic speaking and listening skills and is related to a more general change in information processing ability that occurs during middle childhood (Tunmer & Herriman, 1984).
- (iii) Metalinguistic ability develops after children begin formal schooling and is largely a consequence of learning to read (Valtin, 1984).

Theoretical issues related to metalinguistic awareness and learning to read have generated interest over the past two or three decades. Whether metalinguistic awareness develops concurrently with the acquisition of spoken language, or whether it is a linguistic function that is developmentally separate from listening and speaking, or whether it is simply a consequence of learning to read, are all possibilities for which evidence is inconclusive. Another perspective may be that it all devolves onto the Piagetian idea of directed thought. When the child is able to direct his thoughts about language then metalinguistic awareness is established. In contrast Vygotsky sees metacognition as being concerned with the child's conscious control of his own thinking and learning. This is achieved by internalizing external and social activities and making them part of his own mental structures. The role which language development and cognition play in the development of metalinguistic awareness will thus be considered.

### 2.3.2 Language Development

Sutherland (1992) has emphasised the vital role of language in development. The child manifests an innate ability to learn the rules of grammar informally, provided he is exposed to an oral language environment. By the time he starts school the average child will have mastered the hearing and speaking of the home language in a simplified version of the adult form, which Sutherland describes as an amazing intellectual achievement. This is true if the home language coincides with the medium of instruction. Unfortunately, this is not the case with the second language learner, who is becoming a more and more common phenomenon in South African classrooms. This pupil enters school disadvantaged in the sense that he has to learn to hear and to speak the language of instruction concurrently with learning to read in that language. The first language learner, on the other hand, invariably comes to the learning situation with the language of instruction firmly established. Teachers need to be aware that second language learners may not have the assumed language skills upon entry into the reading programme. Metalinguistic awareness may be present in the home language but not yet in the language of instruction. This emphasizes the need to establish levels of metalinguistic awareness in beginning readers. Turning attention to the role which the development of cognition plays in reading acquisition will contextualise the role which instruction may play in the facilitation of the development of metalinguistic awareness especially in second language learners.

### 2.3.3 Metacognition and Reading

That metacognition grew out of orthodox Piagetian developmental theory, with research employing adult-child clinical interviews, is a view put forward by Garner (1987). Language plays a vital role in the evolution of concepts and it is Vygotsky who made an enormous contribution to our understanding of the development of language and thought. Sutherland (1992) sees him as a pioneer metacognitivist;

advocating that by talking to others the child develops awareness of the communicative functions of language. Another important factor is the difference between the child's actual developmental level, as assessed by his individual problem-solving ability, and the child's potential ability under the guidance of a mediator. This was described by Vygotsky (1978) as the 'zone of proximal development'. Timeous mediation enables the child to do things he would not be able to do, if left to his own devices.

Piaget's emphasis on a biological concept of development as a matter of maturation and unfolding was contrary to that of Vygotsky, who regarded a child's adaptation as much more active and much less deterministic. Unlike Piaget he emphasized the child's cultural background rather than his biological inheritance. In support of Piaget's view several studies have shown that early reading achievement is correlated with the child's abilities to perform such basic Piagetian logical and analytical tasks as classification, seriation and conservation of quantity (For example Arlin, 1981; Lunzer, Dolan & Wilkinson, 1976). Tunmer, Herriman & Nesdale (1988) administered a whole battery of tests to beginning first graders to assess basic logical and analytical ability, IQ, as well as tests of phonemic, syntactic and pragmatic awareness, and also Clay's (1979) Concepts About Print test, which determines children's knowledge of the nature and function of written (printed) text. It is interesting that analyses of the combined results indicated that the children's logical and analytical abilities were more strongly and causally related to both their linguistic awareness and their concepts about print, which in turn were strongly related to the children's linguistic awareness than they were to their IQ scores. A significant finding of this research was that children with low levels of phonemic awareness but with high levels of logical and analytical abilities had caught up with their peers on the phonemic measures by the end of grade one. In

contrast, the children who performed poorly on both the phonemic awareness and the logical/analytical tasks remained considerably behind. The findings of Tunmer et al (1988) lead to the conclusion that some basic logical and analytical abilities will undoubtedly make learning to read much easier. It would be interesting to explore how these findings relate to second language learners with regard to reading acquisition. It may thus be equally useful to explore what role mediation, as advocated by Vygotsky, would have to play in closing the gap between metalinguistic development in the home language and its development in the language of instruction as language and thought (cognition) are so vitally linked. The question arises that while second language learners may have well established logical and analytical abilities in their mother tongue will these same abilities be as strongly established in the language of instruction.

Research on pre-readers suggests that cognitive abilities influence reading achievement only indirectly. For instance, by hastening the children's assimilation of relevant linguistic and text-related skills (Adams, 1990). Researchers warn against delaying reading instruction whilst waiting for cognitive maturation. It is far better and more efficient to provide all beginning readers with a variety of language experiences and activities to develop their linguistic awareness directly.

#### 2.3.4 Literacy Development

In their 'afterword' on Adams' comprehensive review of the research carried out on pre-readers, Strickland & Cullinan (1990) point out that numerous studies suggest that literacy development starts early and is ongoing. It may be viewed as a continuum of increasing competence. More specifically, the course of normal development that leads to successful reading acquisition is discussed comprehensively by Perfetti (1991). The factors that emerged may be summarized: -

- (i) The preliterate child has some experience of speech sounds, particularly listening to, and reciting rhymes. The child's knowledge of speech sounds at this stage is largely implicit and difficult to access.
- (ii) From these early experiences the child is enabled to make some critical connections during his early encounters with alphabetic print. Thus, the alphabetic principle, where meaningful units of print, is within the child's grasp.
- (iii) As the child advances in reading he achieves a more controlled and reflective knowledge of the sound structure of words. The child now consciously attends to words, syllables and phonemes. This analysis of speech sounds gives the child access to and control of segments of spoken words, so he is increasingly able to read new words, acquiring new skills and progressing along the royal road to reading.

In addition, the work of Treiman (1991) suggests that this development may be more finely described. Accepting that awareness of phonemes and awareness of syllables play important roles in the acquisition of reading she observes that the awareness of intrasyllabic units of language has not been considered by researchers. Her proposal is that units which she denotes as 'onsets' and 'rimes' (where the initial letter or cluster is separated from the rhyming end of the word e.g. hat = /h/onset + /at/rime, or blast = /bl/onset + /æst/rime) are cohesive units for children and may be developmentally intermediate between the traditionally accepted view of the two levels of phonological awareness, namely, syllables and phonemes. Treiman believes that the awareness of intrasyllabic units is easier than, and developmentally prior to, the awareness of phonemes, and this view leads us to take a fresh look at the manner in which children read words.



Having considered metalinguistic awareness and literacy from the developmental perspective some of the important theoretical issues which link these two abilities need to be considered.

### 2.3.5 Theories of Metalinguistic Awareness and Learning to Read

Since the late 1970's there has been increasing theoretical interest in the relationship between metalinguistic abilities and learning to read. Tunmer, Herriman & Nesdale (1988) found that children's ability to acquire low level metalinguistic skills depends, at least in part, on their level of operativity; being able to hold onto an idea whilst working on a problem. Further, that in the beginning stages of learning to read, metalinguistic ability helps children to discover 'cryptanalytic intent' - that print maps onto certain structural features of spoken language. Also to become aware of grapheme-phoneme correspondences.

An early literature review by Chall (1967) showed pre-readers' knowledge of letter names was a strong predictor of success in early reading achievement. This was confirmed by Bond & Dykstra (1967). However, later studies where children were taught to name the letters of the alphabet did not seem to give them any real advantage in learning to read. Other factors, such as home background, need to be considered. In spite of this study after study showed letter naming facility to be a 'superlative' predictor of reading achievement (Adams, 1990). In their critique of Adams' work Strickland & Cullinan (1990) point out that most of the studies that show this strong positive relationship are correlational. Where researchers have used measures that diagnose linguistic awareness the result is not important in itself, but is rather a reflection of a broader knowledge about reading and language. Strickland & Cullinan's suggest that perhaps development in literacy causes growth in linguistic awareness. When awareness is tested by measuring performance

on tasks that require direct attention to sentences, clauses, words, syllables and phonemes, it is the phonemic tasks that produce by far the highest correlations with beginners' reading achievement. Syllabic tasks produce significant but weaker correlations and word tasks are only sometimes significant. However, sophisticated statistical analyses indicate that performance on all these tasks generally reflects a single pool of underlying ability rather than a set of separate, unrelated skills (Stanovich, Cunningham & Cramer, 1984; Wagner & Torgeson, 1987).

In seeking solutions for the unresolved conceptual issues revolving around the relationship between metalinguistic knowledge and probing performance there are three possible explanations. It could be that experimental design is flawed, which leads to only weak or moderate correlations being found. Alternatively, it could be that children just cannot verbalize adequately enough to tell all they know or understand. The third possibility is that what appears to be appropriate answers to questions are actually overestimations of what the child knows or understands (Garner, 1987). Other unresolved issues are those of ill-defined problems for which there are no apparent solutions, such as hypothetical scenarios and probing of general processes in child interviews, and also the perennial question of just how do metacognitive knowledge, skills and strategies develop. Perhaps the important issue here is that the developmental process does occur.

This discussion on metalinguistic awareness and early reading acquisition has so far concerned itself with global issues involved in the field. It would seem appropriate at this stage to consider these issues within the South Africa context.

## 2.4 The South African Context

Education in South Africa is currently going through a process of restructuring and increasingly educators are being faced with the reality of the multicultural classroom. Schoeman (1994) underscores the ignominious facts when she writes that the majority of South African children have been adversely affected by the policy of separate development of the past government, Children and their families have been subjected to economic stress, political violence and cultural separation. This legacy remains, but demographic changes in society are requiring people who had little intimate knowledge of each other's way of life to become involved in many different areas. Educators must face the challenges of the new and exciting interactions which are now taking place.

### 2.4.1 Language Culture Problems

Slabbert (1992) points out that one of the major problems among many South Africa students is language proficiency, mainly because they, or their parents, prefer English as the medium of education. Those whose task it is to educate these second language learners need to develop a better understanding of the challenges the child has to face in becoming proficient in English. Only by becoming aware of differences between first and second language reading acquisition can teachers help second language students to profit fully from the education system (Brown & Hays, 1985). These authors also draw attention to the very pertinent factor that formal reading instruction typically starts well after basic speaking competence has been achieved. Reading instruction for second language learners is more likely to occur simultaneously with the emergence of speaking and listening skills in the second language. In first language beginning readers the knowledge of phonology, vocabulary and syntax is, by comparison, well developed, whereas the second language learner struggles in the absence of adequate oral-

aural competence. It is also necessary to be aware of the children's background, as reading fulfils both a social and a cultural function in society. In the past teacher and child usually shared a similar cultural background and reading programmes were culturally generated on Eurocentric lines. The current sociopolitical changes in South African society in general, and in education in particular, have resulted in the old approaches having questionable relevance for the multicultural society which now exists. Research of appropriate procedures and curricula that deal with language and reading have become vitally necessary. Vygotsky (1962) analyzed factors that lead to successful learning. He deduced culture to be crucial, and this in turn led him to focus on language, one of the most critical tools of learning. By talking and listening to others the child develops awareness of his own language. In Schoeman's (1994) view, a child's capacity to learn depends not only on his personal resources but also on the resources of his environment. A child whose early learning experiences are incongruent with the cultural expectations of the available education systems is likely to encounter problems. It is therefore incumbent upon educators today to prepare the education system to receive those children who have diverse views of the world.

#### 2.4.2 Children From Diverse Sociocultural Backgrounds

Historically, a biased view of inherent deficiencies and pathologies permeated educational research to such an extent that successful aspects of growing up enriched have been completely overlooked. However, more recent approaches emphasize a more contextual view of cultural practices. The view of ethnic and social class differences regarding intellectual performance has been described by Cole & Bruner (1971) under the label of 'the deficit hypothesis'. This hypothesis rests on the assumption that a community under conditions of poverty is a disorganised community, and this disorganisation expresses itself in various forms of deficit. Soto (1992) confirms much of the research investigating

culturally and linguistically diverse learners originates from the perspective of the deficit philosophy.

Thus, a culture of poverty appears to be implicit in the view of most deficit theorists. They see the root of the problem within the subjects themselves and look at the political, social and economic contexts of the "haves" and the "have nots". Bloom, Davis & Hess (1965; cited in Soto, *ibid*) describe the problems for students who do not make progress at school as being attributed to the following:

- (i) Homes - that fail to transmit cultural patterns necessary for learning, lack a stimulating environment, and do not have the same intellectual and material resources as middle class families.
- (ii) Socioeconomic Status - assumes middle class status to be the norm, so there is a lack of stimulation, deficiencies in speech, lower expectations, lack of motivation, lower educational level, absence of father and lack of family interaction.
- (iii) Communication patterns - language patterns are less elaborate, inadequate, lack abstract words, lack auditory and visual discrimination.
- (iv) Race - cultural deprivation noticeable, different dialect, lack of achievement drive, lack of stimulus, lack of parental interest and encouragement.
- (v) Motivation - deficient, lack of ability to defer gratification and lower aspirations.

Soto concludes that the language and terms used in the current literature continue to exemplify a pervasive deficit model - 'disadvantaged', 'at risk', 'limited English proficient'. 'Disadvantaged' and 'at risk' may be differentiated. The former describes children from poor families, and the latter, children who show indications of poor school performance. The deficit hypothesis has been challenged by Labov (1970) and Cole & Bruner (1971) on the grounds that the disadvantaged environment fosters language

development that is different, not deficient. Using this as the point of departure new strategies for education could be developed.

In the multicultural classrooms now presenting in our schools the child population will be drawn from a variety of social, cultural and home language backgrounds. Language competence will vary greatly and will be influenced by Eurocentric, Indian, African and Euro-African multicultures. Educators will need to take into account the sociocultural influences that contribute to the developmental process in the child. Emphasis upon language enrichment may be the key if it builds positively upon a rich cultural, albeit diverse, heritage.

#### **2.4.3 Implications of the Relationship Between Metalinguistic Awareness and Reading Acquisition for Second Language South African Beginner Readers**

When considering second language learners a major question arises: To what extent have they developed metalinguistic awareness in their mother tongue and how transferable will this awareness be to the language of the classroom? It would appear that educators should be concerned with developing metalinguistic awareness through oral language communication in the language of instruction as second language learners can be expected to present with varying degrees of deficit which needs to be proactively addressed. Metalinguistic awareness may be crucial to reading acquisition but these second language learners barely have a grip on the basics of their learning language. If teachers can be empowered to determine children's levels of metalinguistic awareness then by making use of Vygotsky's concept of the 'zone of proximal development' the child's potential may be achieved through mediation without having to wait for maturation to occur.

## 2.5 Summary

Concepts of metalinguistic ability relate closely to those of metacognition. How such skills develop in the young has been the subject of a considerable amount of research. That these abilities play an important role in the acquisition of reading is well established. It is, however, important that these abilities are seen in relation to the actual performance of the reading skill within a sociocultural perspective. The child's sociocultural history, that of his mediators, and that of the institutionalised system, will impact on the child's performance in a dynamic way. It has been proposed that improved metalinguistic ability may be accompanied by improved reading ability but this question remains unresolved.

In the following chapter a study will be described that attempts to identify the degree of development with regard to specific aspects of metalinguistic awareness, as well as the level of concepts about print that school beginners present upon entry into formal education. The acquisition of reading skills in grade one is of crucial importance to the future success or failure of the academic career of the school beginner. This study was based on measures devised by Clay (1979) and Dreher & Zenge (1990) which looked at beginning readers' concepts about print, as well as, three aspects of first grade metalinguistic awareness. The former measure, Concepts About Print concentrated on printed language and the children's orientation to books, whilst the latter measure, Metalinguistic Awareness Interview Schedule explored the pupils' understanding of the purposes of reading, their ability to identify sentences, words and letters, and also their understanding of terms used in reading instruction. Exploration of the reading acquisition process from its very outset should serve to highlight the multiplicity of needs that school beginners manifest in the

multicultural classroom setting and may provide the basis upon which research of a more predictive nature may be developed.



## CHAPTER 3

### DESCRIPTION OF STUDY

#### 3.1 Introduction and Rationale

A major concern of this study is to create more awareness of the difficulties that beginning readers experience when faced with the task of learning to read. Research has shown how beginning readers may lack understanding of the purpose of reading and the content of books (Denny & Weintraub, 1966; Downing, 1969, 1970, 1972; Huffman, Edwards & Green, 1982; Johns & Ellis, 1976; Myers & Paris, 1978; Reid, 1966; Vernon, 1957; Vygotsky, 1962). These beginners display confusion with regard to instructional terms and find isolating language units difficult (Downing, 1969, 1970, 1972, 1976; Ehri, 1984; Evans, Taylor & Blum, 1979; Samuels, 1983; Sanders, 1981). Other problems experienced include the relation of print to the spoken word, directionality, visual patterns and sound sequences (Clay, 1972; Ehri, 1978; Goodman, 1969; Hiebert, 1981; Le Fevre, 1964; Lundberg & Torneus, 1978; Rozin, Bressman & Taft, 1974; Taylor, 1982).

Early research undertaken by Reid (1966), Downing (1970), and Francis (1973) demonstrated relationships were found between reading development and the understanding and use of such terms as letter, word and sentence (Francis, 1984). The lack of research on the child's ability to identify sentence boundaries was confirmed by Dreher & Zenge (1990), as most researchers studying sentences have asked subjects to judge sentence on conforming to standard usage and social practice, or on syntactic and semantic correctness (Hakes, Evans & Tunmer, 1980; Scholl & Ryan, 1980; Taylor, 1976), rather than the identification of the sentence as a unit of language conveying a thought or an idea.

children's responses. This aspect is important when second language learners may lack sufficient fluency in speaking to engage in open-ended discussions.

For this reason the current study focuses on the declarative knowledge that beginning readers manifest upon entry into grade one. The two other aspects of metacognition identified by Paris, Cross & Lipson (1984): procedural knowledge and conditional knowledge; knowing how and when to apply acquired skills, would only develop as reading ability develops during the course of the first year at school and beyond and were therefore not included in the present design. This study focuses on the work of Dreher & Zenge (1990) who showed that first grade metalinguistic awareness is a statistically significant predictor of later reading comprehension. In addition Clay's (1979) assessment procedures reveal which children do not understand some basic concepts about print, or those who are trying to read with little knowledge of letters, or those who seem to know words, but are not noticing letter/sound sequences within them. Clay's emphasis is upon systematic observation because science is based on the systematic observation of phenomena under known conditions. She argues that an undue focus upon testing can deprive educators of valuable information about learners and their learning. The concern of this study was to assess what concepts the children had already acquired and to establish their level of linguistic knowledge which would help determine their readiness, or otherwise, for reading instruction to commence.

### 3.2 Aims and Objectives

The purpose of the current research was to examine the role of certain aspects of metalinguistic ability, as well as some basic concepts regarding the printed word that grade one pupils manifest in the initial stages of learning to read.

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Given the importance of the acquisition of reading skills for the school beginner, the main objectives of the study were to describe the declarative knowledge manifested by beginning readers in the following areas:

- (i) understanding of the purposes of reading and the content of books;
- (ii) basic concepts about print;
- (iii) identification of sentence boundaries, both spoken and written;
- (iv) isolating language units;
- (v) identifying language segments;
- (vi) understanding the meaning of some basic instructional terms.

Thus the main aim of the study has been to describe the variation in aspects of metalinguistic awareness, concepts about print and pre-reading behaviours in a socioculturally diverse group of school beginners. The method employed to do this took the form of a structured interview and systematic observation of each individual child within the sample.

In view of the manner in which the problem has been conceptualised the aims must be to pinpoint metalinguistic abilities and the confusions that occur; to identify which concepts about print cause most difficulty for the beginning reader; to note any specific trends that emerge from the multicultural class situation. How the problems of beginning readers may be timeously addressed in a proactive manner will be discussed in Chapter 6. Before proceeding to describe the study it is necessary to apprise the reader of the sociopolitical backdrop to the education system at the time of the study.

### 3.3 Background

Education in South Africa today is in a state of transition. Until quite recently the province of KwaZulu Natal (formerly Natal) had five separate education departments: The Natal Education Department (NED) was responsible for so called 'white' schools; the Department of Education and Training (DET) and the Kwa-Zulu Department of Education and Culture (KZDEC) for black schools, the former being responsible for those schools that geographically fell within the boundaries of Natal itself, and the latter for those schools in the specific geographical areas of Natal demarcated as Kwa-Zulu, being under the jurisdiction of the Kwa-Zulu Government; the House of Representatives (HOR) was in charge of all 'coloured' education and the House of Delegates (HOD) fulfilled a similar role in respect of Indian schools. In 1995 all the separate departments began being phased out to make way for the new all-encompassing KwaZulu Natal Department of Education and Culture. This department was established in principle but the with magnitude of the logistics of all the changes that have to be put in place there must of necessity be a transition period before the new unified department is completely integrated. As a result of this situation the composition of pupils in schools still tends to be socio-linguistically unevenly distributed. The two former NED schools from which the sample was drawn cater for Black, white and Indian pupils, and the medium of instruction is English. In the past the Group Areas Act restricted people of different ethnic groups to separate geographic locations. Both schools are situated within the Amanzimtoti municipal boundaries. School A has a large intake from the nearby former Indian area of Isipingo and School B now caters for many black children from the nearby 'township' of Umlazi. Not surprisingly, the socioeconomic status varied considerably amongst the subjects.

### 3.4 Subjects

The sample in this study was drawn from two schools situated on the Upper South Coast of KwaZulu-Natal. These two schools were selected as being representative of school populations in the area.

Table 1 Grade One Pupils Participating in the Study

No. of Pupils	School A	School B
Males	25	20
Females	21	21
Total	46	41

The total number of pupils in grade one was 135, (School A 65, School B 70). It was necessary to exclude 48 pupils for the following reasons: 15 were repeating grade one, 18 on the grounds of lack of fluency in English, one girl was excluded due to prolonged absence and parental permission was withheld in the case of another female pupil. From the remaining 100 pupils, 13 were randomly selected to be included in a preliminary study, this left 87 pupils for the study itself. The average age of these pupils was 6 years 2 months at the time of first entry into grade one. The sample will be described according to age, language culture, preschool experience and family constellation.

Table 2 Age of Participants

Age in Months	School A	School B
Maximum Age	84	89
Minimum Age	64	67
Average Age	73.39	74.39

In these former 'white' schools more than 48% of the pupils were categorized as English-Eurocentric language culture but it is noted that more than 3% of these had Afrikaans backgrounds. The English-Zulu language culture group comprised more than 36% and the English-Indian language culture group nearly 15%

**Table 3 Language Culture Group**

Language Culture Group	School A	School B
English-Eurocentric	26	16
English-Zulu	9	23
English-Indian	11	2

Only 10% of the children had not attended some sort of pre-school facility. By far the greatest number, nearly 58%, had attended a pre-primary school for at least one year prior to entry into grade one. The remaining 32% were equally divided between play centre/day care facility or a reception class attached to a primary school. School B had its own English language enrichment reception class catering specifically for Zulu speaking children.

**Table 4 Pre-school Experience of Pupils**

Pre-school Education	School A	School B
Pre-primary School	34	16
Reception Class	2	12
Play Centre	8	6
None	2	7

It would appear that most of the 87 pupils in the study come from intact families. Death, divorce or separation categorized 13 of the children as coming from single parent

families, although one mother had remarried. One child was with foster parents.

These subjects were interviewed on an individual basis using two procedures devised by Clay (1979) and Dreher & Zenge (1990). Before describing the procedure of the study the assessment measures will be discussed.

### 3.5 Assessment Procedures

The assessments used in this study were adaptations of Clay's (1979) Concepts About Print test (CAP) which was part of a battery designed to identify children at risk for reading problems, and Dreher & Zenge's (1990) Metalinguistic Awareness Interview Schedule (MAIS).

#### 3.5.1 Concepts About Print (CAP)

When considering early reading behaviour it is important to observe the child's level of development with regard to some \* basic concepts about print. "Although this learning soon becomes subconscious or automatic it cannot be taken for granted in the early stages of learning to read" (Clay, 1979; p. 246).

In this study an abridged version of the Concepts About Print test developed by Clay (1979) in New Zealand was adapted for use with children of diverse sociocultural backgrounds. Clay's test forms part of a diagnostic survey for use with children during their first year of formal schooling. It is a criterion referenced assessment which enables teachers to observe children at work on actual tasks and to take note of those abilities evidencing themselves as being present. Clay stresses that CAP should not be used in isolation because it assesses only one aspect of early reading behaviour. What CAP actually measures are some significant concepts about printed language. For example: the front of the book; print not picture tells the story; print operates from left to right



across the page and in sequence from the top left-hand side to the bottom right-hand side of the page. The CAP test was adapted for use in this study.

#### **Adaptation of CAP**

The CAP contains 20 items. Items 1-9 were included in the abridged version, with items 10-20 being omitted. An additional item, No. 10, was the final question. It deals with letter recognition and is similar to CAP item 15. Certain upper case letters on Clay's alphabet sheet were indicated by the interviewer, with a request to the child to find the matching lower case letter. In place of Clay's 'Sand' or 'Stones' booklets, one of the books from the first level reading programme was used. This book was Gay Way Series: *Red Book 4: The House in the Hat*. Being a first level reader it was considered to be a suitable substitute for the child to work with whilst answering the questions. A detailed copy of the test will be found in Appendix 2.

#### **3.5.2 Metalinguistic Awareness Interview Schedule (MAIS)**

The MAIS was developed by Dreher & Zenge (1990) in the United States. It takes the form of a structured interview that deals with the metalinguistic concepts of the purposes of reading; sentences, words, letters, sounds; terms used in reading instruction. Dreher and Zenge state that the recognition of sentence boundaries is an important skill which is rarely emphasized in research. Similarly, word boundaries and the segmentation of words into their component letters are also important skills in the acquisition of literacy.

#### **Adaption of MAIS**

The schedule was followed exactly apart from a few vocabulary substitutions which appeared to be more appropriate in the South African context. For example: substituting 'apple pie' for 'cherry pie'; 'very nice' for 'pretty'; using alternative proper nouns including some Zulu names; describing the

weather according to what we were actually experiencing. The complete schedule is set out in Appendix 3.

The two measures, that is Clay's Concepts About Print (CAP) and Dreher and Zenge's Metalinguistic Awareness Interview Schedule (MAIS) took the form of structured interviews in which the children were required to respond to oral questions. Some responses necessitated the manipulation of toy cars, and some required the children to indicate their answer using a first grade reader. Each individual assessment, which took place in a quiet, distraction-free environment, lasted approximately 30 minutes. The children's responses during the interviews were recorded verbatim, whilst at the same time observational data were collected to form a third measure.

#### 3.5.3 Observational Data

During each individual interview some clinical observations and behaviours of each subject were noted. Such aspects as task application, hand dominance, attention span, personal differences and any particular characteristics were recorded whilst the child was busy with the various items included in the assessment. Full details appear in Appendix 4. In addition to the interview procedures and observational data the children's academic achievement was monitored by the class teachers and their achievement level at the end of grade one was included as a fourth measure.

#### 3.5.4 Achievement Level at Completion of Grade One

Continuous assessment by the subjects' class teachers was ongoing throughout the year. By the end of November each teacher was able to give grade assessments for every pupil in various aspects of English, as well as a Mathematics mark and an overall grade which would indicate the child's level of preparedness for grade two. The achievement schedule is set out in Appendix 5.

### 3.5.5 Equipment

Apart from the measures themselves and the protocol sheets for each pupil the equipment required was minimal. Other apparatus included four toy cars of different colours (red, blue, yellow and green), a strip of card with the sentence "I have four cars" printed in large (2cm) letters, the first grade reader already mentioned and an HB pencil with which the children were requested to write their names.

### 3.5.6 The Interview

The interviews were conducted by the researcher in a quiet, relatively distraction-free room all that was needed was an infant table and two infant chairs so interviewer and interviewee were sitting alongside each other. A non-stimulating environment is important so to minimize the distraction the chairs faced either a blank wall or bookshelves that displayed the spines of books only.

### 3.5.7 Scoring

Two scoring sheets, one for CAP and one for MAIS, with biographical details and space for observational data were devised. The 10 questions of CAP and the 20 questions of MAIS were scored on a 1 or 0 basis, depending whether the subject indicated the concept or awareness or not as measured by these instruments. Biographical and observational data were categorized descriptively under the headings sex, age, language culture, family background, pre-school experience, school, class group, behaviour during testing and overall observations. These details appear in Appendix 6.

In the CAP test the scoring standards set out by Clay for items 1-9 were adhered to and in the case of question 10 the child had to match correctly a minimum of three lower case letters, out of the five upper case letters indicated by the researcher using Clay's letter identification sheet. Scoring criteria are set out in Appendix 2.

The MAIS was divided into five sections dealing with the understanding of reading as a meaning-gathering process, sentence and word boundaries, and various linguistic items including segmentation, knowledge of the alphabet, as well as terms used in reading instruction. These 20 items were scored according to the criteria set out in Appendix 3.

#### 3.5.8 Scoring Reliability

To guard against bias on the part of the researcher the children's protocols were re-scored. An independent judge, and experienced educational psychologist, who had no connection with the research scored the children's responses separately. The interrater reliability was .99 and the minor differences were discussed and resolved by consensus.

Having described the assessment measures used we may now return to the research procedure.

### 3.6 Procedures

Once the two schools had been selected the principals were approached for permission to conduct the research in their respective schools. The planned procedures were outlined in detail highlighting the non-invasiveness of the assessment and the significant importance of early reading behaviours. Both principals, in consultation with their governing bodies, gave enthusiastic support to the project. Thereafter the approval of the KwaZulu Natal Department of Education and Culture was granted, with a request for a report back once the study had been completed. Further, informed written consent was obtained from the parents of all participating subjects. Also, prior to commencing the research the teachers concerned were duly apprised of the study and there was a positive response from those who would be involved. Finally, a preliminary study was conducted on a random sample of children from each of the 4 class groups based on the chronological age range and mean of each class. The

assessment procedures were then revised as outlined above and the study was duly conducted.

#### 3.6.1 Physical Environment/Time Frame

The first grade children included in the study were interviewed individually, on a one off basis, over a three week period that commenced during the second week of February. The interviews, which were of approximately 1/2 hour duration, took place outside the classrooms but in the subjects' own school building, in a quiet room that was relatively distraction free. The assessment rooms had sufficient ventilation and light and only the occasional noise intruded on proceedings. However, February is the height of summer in KwaZulu-Natal and on most days the temperature was +/- 30 C and humidity was high. All interviews were conducted by the researcher in the interests of consistency. Answers were recorded verbatim and observational notes were made during each interview.

#### 3.6.2 Control of Variables

Due to time constraints an average of only 6 children could be interviewed on any one school day. Consequently the first testees in the sample had had 14 days of schooling and the last testees had undergone 29 days. In order to control for the effects this may have had on the results schools were visited on alternate days, and on those days children were drawn from alternate classes, boys and girls in random order. However, given that learning is an ongoing process those interviewed at the end of the study may have had a slight advantage over those at the beginning.

#### 3.6.3 Rapport Building

As recommended by Dreher & Zenge (1990) an effort was made to minimize the children's fear of failure and increase their willingness to respond. For this reason each interview began with activities to establish rapport. Initially the children were told by their teachers they would be going to chat about

school activities and play with toy cars. So the interviews began, immediately the child was collected from his or her class group, with some discussion of current school happenings, playing with the cars and talking about friends and family members. As the interviews developed additional rapport-building questions or example activities were introduced.

#### 3.6.4 Procedure for MAIS

Once rapport was established the subjects were given the interview as described. Dreher and Zenge encourage additional probing as this helps interviewers determine whether or not the pupils have misunderstood the various concepts. In the MAIS section of the interview the children were given practice items for both sets of questions requiring the identification of word and sentence boundaries. They were requested to move the toy cars, and count if they wished, to indicate the correct number of words or sentences that the interviewer presented to them in the separate items. The action of tapping on the desk, included by Dreher and Zenge, was not offered as an option to moving cars, as it was felt that concentrating on the cars alone simplified the task/response pattern in the multicultural situation in which the assessments took place.

#### 3.6.5 Procedure for CAP

Clay explains that the CAP tasks present a standard situation in which the child can be observed. She enjoins interviewers to try to retain the standard task, but at the same time be flexible enough to communicate the task to the child effectively. The abridged CAP assessment items were administered as set out by Clay, where she stresses the use of exact wording. Item 10 was modelled on Item 15 as previously indicated and in Item 6 which deals with word-by-word pointing, a demonstration was given if the child appeared unclear about what was required. One should not assume that verbal explanation has taught the child's eyes

to locate, recognize and use the information presented. Likewise, the child's auditory processing of the message may be incomplete or inaccurate, and the interviewer needs to be sensitive to such possibilities.

#### 3.6.6 Observational Data Procedure

Observational data were recorded on the sheet alongside the subjects' responses as the interviews proceeded. These notes were subsequently formulated according to a 15-point schedule as set out in Appendix 4.

#### 3.6.7 Follow-up Procedure

At the completion of their grade one year each of the subjects was rated for scholastic achievement by the class teacher. Each child was graded on a 5-point scale: 5 - excellent, 4 - above average, 3 - average, 2 - below average, 1 - weak. English was broken down into 6 categories covering spoken language, reading fluency, word recognition, phonics, written application and oral comprehension. In addition a Mathematics mark and an overall grading were allocated by each class teacher.

### 3.7 Summary

This study was aimed at describing the diversity of certain basic metalinguistic abilities and concepts about print that beginning readers manifest at the start of formal instruction in grade one. Research over the past 30 years has shown these characteristics to be predictive in regard to the ease of reading acquisition and later comprehension ability.

On entry into grade one 87 pupils were individually assessed on an abridged version of the Concepts about Print test (Clay, 1979), and the Metalinguistic Awareness Interview Schedule devised by Dreher & Zenge (1990). Prior to the main research a preliminary study was conducted during the second

week of the first term with 13 additional, randomly assigned grade one pupils, in order to identify any problems that might possibly arise in using these measures in a South African setting on this particular multicultural sample. By the end of the third week of the first term the tests had been revised and the main study was begun; this was completed 3 weeks later. Biographical and observational data were also collected for the entire sample. Teacher ratings were allocated to each subject at the end of the first year of tuition and these were included in the data base. Data were duly analyzed and a discussion of the results follows in chapter 4.



## CHAPTER FOUR

### RESEARCH FINDINGS

#### 4.1 Analysis of Data

As stated in chapter 3 the major aim of the study was to describe the diversity of aspects of metalinguistic awareness and pre-reading behaviours in a socioculturally diverse group of school beginners, as well as their development levels of concepts associated with the printed word. The questions which were addressed included:

- (i) To what degree do the pupils exhibit an understanding of the purposes of reading and the content of books;
- (ii) How familiar are they with some basic concepts about print;
- (iii) How well can they identify sentence boundaries both spoken and written;
- (iv) Were they able to isolate language units and identify language segments;
- (v) Were the meanings of some basic instructional terms understood.

A secondary aim was to determine what the beginner needs most to learn, his strengths and weaknesses, how to assess these quickly and effectively, and how best to address any difficulties the beginner reader may present in the initial stages of reading acquisition. These questions will be addressed subsequently in chapter 5, in the light of the major findings of the study.

#### 4.2 Demography of the Sample

As this has already been described in detail only a brief

summary of the main demographic features of the sample will be included at this stage. Of the 87 pupils, 45 were boys and 42 were girls. Two boys were 7 years old, 27 were six years old and the remaining 16 were 5 years of age. The 42 girls ages were equally distributed: 21 6 year-olds and 21 5 year-olds. The language culture groupings were English-Eurocentric 48%, English-Zulu 37% and English-Indian 15%. In the whole group slightly more than 40% were second language learners. The majority of the children had received preschool education: 58% at pre-primary school, and 16% each in a reception class or a play centre. Only 10% of the children remained at home during their preschool year. The composition of the two schools differed in that in School A 56% of the pupils were included in the English-Eurocentric language culture group, 24% were English-Indian, and 20% were English-Zulu; whereas in School B 56% were included in the English-Zulu language culture group, 39% were English-Eurocentric and only 5% English-Indian. Further, School A comprised 22% second language learners compared with School B at 61%.

The sample was divided amongst four class groups: 1 and 2 in School A and 3 and 4 in School B. Classes 1-3 were similar in that they each comprised more than 50% English-Eurocentric language culture children. In these classes the English-Zulu pupils accounted for 21%, 18% and 36% respectively, and the English-Indian pupils were 25%, 23% and 7% of each class respectively. Class 4 accommodated English-Zulu pupils only. The percentage of second language learners in each class (1-4) was 25%, 18%, 43% and 100%.

### 4.3 Descriptive Statistics.

Four measures have been included in the data analysis:

- (i) Concepts About Print test (abridged version)
- (ii) Metalinguistic Awareness Interview Schedule
- (iii) Observational Data

- (iv) Achievement Level at the end of the first year of formal instruction.

Firstly the results will be analyzed for the whole group as being a representative sample of schools in the area. Thereafter, further analysis will be carried out where within-group comparisons will be considered with regard to

- (i) Language Culture

- (ii) First and Second Language Learners

This section of the data analysis seeks to describe what characterizes the subgroups of beginner readers pertaining to language culture and first or second language medium of instruction. Age and sex variables have not been included in the analysis as inspection of the data showed that neither factor significantly altered the picture presented below.

#### 4.3.1 Concepts About Print

An abridged version of Clay's Concepts About Print (CAP) test was used in this study as an additional measure to complement the Metalinguistic Awareness Interview Schedule (MAIS) because the latter is almost entirely an aural measurement device. The CAP provides the pupils 'hands on' experience with an actual book and calls into play the visual skills involved in attention to print. The results on the CAP for the group as a whole are set out in Table 5.

**Table 5 CAP Results: Index of Item Difficulty N=87**

Concepts	Items	Correct Responses	Index of Item Difficulty
Correct orientation of book	1	82	94.25%
Print tells the story	2	50	57.47%
Directionality: print operates from the top left side of page in sequence from L to R with return sweep to next line	3	15	17.24%
	4	48	55.17%
	5	67	77.01%
Word-for-word matching	6	30	34.48%
First/last	7	42	48.28%
Inversion: top/bottom of picture, orientation of inverted print	8	49	56.32%
	9	39	44.83%
Alphabet matching	10	25	28.74%

Maximum score = 10

 $s = 2.34$  $\bar{X} = 5.1$  $s^2 = 5.47$ 

The level of concept acquisition for the individual items included in the CAP is determined by the index of item difficulty in the above table. It became apparent that children in this particular group were well able to orient to the book. The success rate indicates that only 5.75% of the sample failed item 1. In spite of the fact that many of the children reported having no books of their own at home, the majority knew how to handle a book, where to open it and how to look at the pictures in sequence, although in a few cases there was a tendency to note the picture on the right hand side before the one on the left. This sample was also relatively successful in executing the return sweep action showing that they understood the line by line sequencing of the reading process.

Only fifty-seven percent of the group realised that the print, and not the picture, tells the story; that one reads across the line from left to right; and, that inverting the picture does not change the concept of top and bottom. In a little less than fifty percent the concept of first and last was also established. Inversion of the printed page proved to be slightly more of a problem with a forty-five percent success rate in this item.

The areas of the CAP which presented most problems to the group were, in order of difficulty, being able to identify exactly the first word in the first sentence of the story (Item 3: 82.76% failure rate); visually matching the lower case letters to the upper case letters of the alphabet (Item 10: 71.26% failure rate); and, word-for-word pointing as the story was being read aloud to them (Item 6: 65.52% failure rate).

From these results it became clear that a large proportion of the sample had not yet acquired some of the basic skills required for operating on the printed language that they would soon encounter in their first reading experiences in the classroom.

#### 4.3.1.1 Concepts About Print and Language Culture

The CAP protocols for the three language culture groups followed the pattern of the group as a whole, apart from picture inversion, in which the English-Eurocentric was marginally better than the English-Indian group. With this single exception the English-Indian group performed best; only Item 3 (exact starting point of the story) fell below the sixty percent level, giving the group an overall success rate of 73.1%. By comparison the English-Eurocentric group reflected six scores below the sixty percent level, although Item 2 (print tells the story) and Item 7 (concept: first/last) were only a little below. As well as the exact starting point of the story, this group also encountered

problems with alphabetic matching, word-for-word pointing, and inversion of the printed page. The success rate was 57.1%. The English/Zulu language group appear to be disadvantaged in that they do not have such easy access to books. This group only succeeded in responding above sixty percent level in the orientation to the book (Item 1). Their better developed concepts were: the return sweep to the subsequent line of print (Item 5); that print, not picture, tells the story (Item 2); and, sequencing left to right across the line of print (Item 4). The success rate overall was 34.4%. The composite results for the three language culture groups are set out in Table 6.

**Table 6 Index of Item Difficulty for CAP in the Three Language Culture Groups**

Concepts	English- Eurocentric	English- Indian	English- Zulu
1. Orientation of book	97.62%	100%	87.50%
2. Print carries message	59.52%	86.62%	43.75%
3. Directionality: Begin top left	19.05%	30.77%	9.38%
4. L to R across line	61.90%	76.92%	37.50%
5. Return sweep to next line	85.71%	92.31%	59.38%
6. Word-for-word pointing	40.48%	69.23%	12.50%
7. First/last	57.14%	84.62%	21.88%
8. Inversion: Picture	71.43%	69.23%	31.25%
9. Print	47.62%	69.23%	31.25%
10. Alphabet matching	28.57%	61.54%	15.63%
	N = 42	N = 13	N = 32

Maximum score = 10

$$\bar{X} = 5.71$$

$$s = 1.98$$

$$s^2 = 3.92$$

$$\bar{X} = 7.31$$

$$s = 2.33$$

$$s^2 = 5.44$$

$$\bar{X} = 3.44$$

$$s = 1.58$$

$$s^2 = 2.50$$

#### 4.3.1.2 Concepts About Print: First and Second Language Learners

The medium of instruction for the pupils in this study was English. Besides the three different language culture groups, a little over forty percent of the sample were not first language speakers of English: thirty-two spoke Zulu at home and there were a further three children whose mother-tongue was Afrikaans. This group of second language learners had acquired fewer concepts on all the items of the CAP. The largest discrepancy appeared in Item 7 which assessed the concept of the beginning and end of the story. The second largest difference appeared in Item 6 which required the child to point to each word as it was read slowly but fluently by the researcher. Similarly, Items 4 and 8: print proceeds in sequence from left to right across the line, and the bottom of the picture remains the bottom even when the picture is inverted, showed that the second language learners had difficulty in conceptualising the ideas embodied in these items. In contrast the gap between first and second language learners was closest for the easiest item across the whole sample (Item 1: orientation of book), but also for the item that was the most difficult for all the children (Item 3: beginning of first sentence of story). Bearing in mind that second language learners were conceptually underdeveloped throughout, the degree of difficulty encountered in six of the ten items differed between the two groups. Second Language learners found Item 2 (print tells the story) relatively easier than Item 8 (inversion of picture). Likewise, Item 9 (inversion of print) was easier for these children than Item 7 (beginning and end of story). Also Item 10 (visual recognition of alphabetic print) caused less of a problem than Item 6 (pointing word-for-word). In first language learners all these items were reversed in respect of degree of difficulty. These comparisons are set out in Table 7.

**Table 7 Index of Item Difficulty for CAP in 1st and 2nd  
Language Learners**

Concepts	1LL	2LL
1. Orientation of Book	98.08%	88.57%
2. Print tells story	67.31%	42.86%
3. Directionality: Begin top left	23.08%	8.57%
4. L to R across line	67.31%	37.14%
5. Return Sweep	86.54%	62.86%
6. Word-for-word	48.08	14.29%
7. First/last	65.38%	22.86%
8. Inversion: Picture	69.23%	37.14%
9. Print	51.92%	34.29%
10. Alphabet matching	36.54%	17.14%

N = 52

N = 35

Maximum score = 10

$\bar{X} = 5.88$  $\bar{X} = 3.57$

$s = 2.19$  $s = 1.61$

$s^2 = 4.81$  $s^2 = 2.59$

1LL = First Language Learners    2LL = Second Language Learners

**4.3.2 Three Aspects of Metalinguistic Awareness**

The Metalinguistic Awareness Interview Schedule (MAIS) devised by Dreher & Zenge (1990) has been the measure used in this study to describe the diversity of specific aspects of metalinguistic awareness evident in a socioculturally diverse group of school beginners.

Items 1-3 of the interview schedule were used to probe the children's concepts of the purpose and process of reading. Few responses showed evidence that the subject understood reading to be a meaning-gathering process while 40% of the



children gave appropriate answers with regard to the content of books.

As twelve of the twenty items dealt with segmentation this section has been divided into three parts to separate the specific tasks involved:

- (i) Aural segmentation of sentences;
- (ii) Aural segmentation of words;
- (iii) Visual segmentation of words and letters.

In the first subsection, Items 5-9, the children were asked to identify sentences as separate linguistic units. These items reflected a high success rate, the most difficult being the three sentence component, but even here there was 77% success. The second subsection, Items 10-14, required the children to count the number of words that they heard in each sentence. Here the success rate ranged between 91% and 64%, similarly the three word sentences proved the most difficult. The third subsection contained two additional segmentation tasks, Items 16 and 17, where the children had to visually discriminate the number of words in a sentence and then the number of letters in the same sentence. Relatively high success rates of 84% and 71% respectively were achieved on these two items. It can be seen from these results that in general terms the segmentation tasks were well performed as the overall success rate on these twelve items averaged more than 80%.

Finally, Items 4, 15, 18-20 evaluated the subjects understanding of instructional terms commonly used with beginning readers. The most difficult concept here was that of "sentence" (Item 4), followed by that of "sound" (Item 18), but 43% of the children had acquired the concept of "alphabet" (Item 15). More than half the children knew "language" and 83% could give the name of one or more languages. The complete results of the MAIS may be found in Table 8.

**Table 8 MAIS Results: Index of Item Difficulty N = 87**

Components	Items	Correct Responses	Index of Item Difficulty
Purpose of reading/content of books	1	6	6.9%
	2	17	19.54%
	3	35	40.23%
Aural segmentation of sentences	5	84	96.6%
	6	72	82.76%
	7	75	86.21%
	8	67	77.01%
	9	76	87.36%
Aural segmentation of words	10	79	90.8%
	11	60	68.97%
	12	56	64.37%
	13	73	83.91%
	14	65	74.71%
Visual segmentation words/letters	16	73	83.91%
	17	62	71.26%
Terms used in reading instruction	4	18	20.69%
	15	37	42.93%
	18	27	31.03%
	19	45	51.72%
	20	72	82.67%

Maximum score = 20

s = 3.41

 $\bar{X} = 12.55$  $s^2 = 11.65$ 

A comparison of the similarities and differences found in the KwaZulu Natal sample and the Mid-Atlantic county sample of Dreher & Zenge will be found in Appendix 2.

#### 4.3.2.1 Metalinguistic Awareness and Language Culture

All three language culture groups achieved most success with the various segmentation tasks reflecting the results of the

group as a whole. Although the English-Indian group demonstrate less concept development than the English-Eurocentric group, and the English-Zulu group had acquired fewer concepts than the English-Indian group all the subgroups did well with only a few percentage points separating them. The subjects had far greater difficulty in understanding the purpose of reading as a meaning-gathering process, although the question regarding the actual content of books had a somewhat better response. More of the English-Eurocentric group had acquired these concepts (35%), followed by the English-Indian group (21%), and then the English-Zulu group (6%). Problems were also encountered in some of the items dealing with knowledge of instructional terms. The concept "sound" was only +/- 30% correct for each of the three language culture groups. The English-Zulu language culture group had a similar problem with the idea of "language". Somewhat less difficulty was encountered with the concept of alphabet. Whilst the English-Indian group did quite well (>60%) the English-Eurocentric group was slightly less efficient than the English-Zulu group, a +/- 40% correct response level. The majority of the subjects were unaware of the concept "sentence". The English-Eurocentric group had 31% concept acquisition, the English-Indian group 23% and the English-Zulu group 6%. The results for the three language culture groups showing the different MAIS components are summarized in Table 9.

**Table 9 Index of MAIS Component Difficulty for the Three Language Culture Groups**

Components	English-Eurocentric	English-Indian	English-Zulu
Reading: a meaning-gathering process	34.92%	20.51%	6.52%
Segmentation of sentences	89.52%	86.15%	81.25%
Segmentation of words	82.38%	76.92%	68.75%
Visual segmentation of words and letters	82.14%	80.77%	70.31%
Terms used in reading	48.57%	53.85%	38.74%

	N = 42	N = 13	N = 32
Maximum score = 20	$\bar{X} = 13.7$	$\bar{X} = 13.1$	$\bar{X} = 10.8$
	s = 2.57	s = 4.25	s = 3.21
	s <sup>2</sup> = 6.63	s <sup>2</sup> = 18.07	s <sup>2</sup> = 10.32

#### 4.3.2.2 Metalinguistic Awareness: First and Second Language Learners

As already noted the medium of instruction for pupils in this study was English with a ratio of approximately 3:2 in favour of first language learners. The second language learner group, including those whose home language was Afrikaans did relatively well on the segmentation tasks of the MAIS, although these concepts were not quite as well established as those of the English home language group: 84.87% to 72.86%. Underdevelopment was apparent in the knowledge and understanding of words used in reading instruction; with first language learners the success rate was 50% and with second language learners 39%. Those whose home language was not English appeared to be at a distinct disadvantage with regard to the concepts pertaining to reading as a meaning-gathering process, for although only 33% of first language learners were successful with these tasks, second language learners' concept development was less than 7%. In the latter group the results reflect minimal awareness of the idea that

the printed word carries a message that could be of use or interest to the reader. It is noted that the Afrikaans speaking children in this sample only made up eight-and-a-half percent of the second language learner group. It is therefore difficult to speculate about the performance of such a small number of subjects. Micro-explanations and macro-explanations will be explored in the discussion of the results (Chapter 5). A comparison of first and second language results will be found in Table 10.

**Table 10 Index of MAIS Component Difficulty for 1st and 2nd Language Learners**

Components	1LL	2LL
Reading: a meaning-gathering process	32.69%	6.66%
Segmentation of sentences	88.08%	82.86%
Segmentation of words	81.92%	68.57%
Visual segmentation of words and letters	84.62%	67.14%
Terms used in reading instruction	50.38%	38.86%

N = 52

N = 35

Maximum score = 20

$\bar{X} = 13.69$

$\bar{X} = 10.89$

s = 3.05

s = 3.16

s<sup>2</sup> = 9.29

s<sup>2</sup> = 9.99

#### 4.3.3 Observational Data

During each subject's interview observational data were collected regarding the behaviour during testing, as well as some overall observations. The first section comprised ten bimodal characteristics which may or may not have been present during the assessment of any particular child. The second section made some overall observations about all the subjects in the sample. The details pertaining to these data will be found in Appendix 4, as they are the clinical observations of the researcher. No interrater reliability measure was administered so these results are not included

in the main data analysis. They will, however, be discussed in chapter 5.

#### 4.3.4 Achievement Level After One Year of Instruction

Throughout the year the class teachers of the subjects made continuous assessments regarding their pupils' progress. It was on this basis that the children were graded for the purpose of this study:

Oral	level of spoken English
Word Recognition	sight vocabulary
Fluency	reading ability
Phonics	knowledge of sounds and simple blends
Written	ability to structure written sentences
Oral comprehension	understanding of instruction by teacher
Maths	development of number concepts and simple + and - calculations
Overall	This overall assessment defined where the child stood in respect of being ready to proceed to grade two.

Apart from the group's ability in written English all the areas that were assessed showed positive bias, particularly phonics. The full group results are set out in Table 11.

**Table 11 Achievement Levels After 1 Year of Tuition N = 87**

	5	4	3	2	1
Oral	Nil	34.48%	44.83%	18.39%	2.3%
Word Recognition	10.34%	20.69%	50.57%	16.09%	2.3%
Fluency	6.9%	25.29%	59.57%	16.09%	1.15%
Phonics	3.45%	43.68%	32.18%	13.79%	6.9%
Written	2.3%	14.94%	47.13%	34.48%	1.15%
Oral Comprehension	Nil	28.74%	57.47%	13.79%	Nil
Maths	1.15%	28.74%	52.87%	16.09%	1.15%
Overall	Nil	21.84%	62.07%	13.79%	2.3%

5 = Very good

4 = Above average

3 = Average

2 = Below average

1 = Very weak

**4.3.4.1 Achievement Levels of Three Language Culture Groups**

Analysis of the various components of the children's assessment according to language culture reveal some interesting features. Just the major findings for each category will be discussed here:

**1. Oral.**

In respect of the level of spoken English more than 92% of both English-Eurocentric and English-Indian subjects have been rated average or above and 81% of the English-Zulu children are average or below.

**2. Word Recognition.**

Here more than 71% of both English-Eurocentric and English-Zulu subjects are rated average or above but English-Indian are ahead in this category with >61% being above average or very good.

**3. Fluency.**

Actual reading ability amongst English-Eurocentric and English-Zulu children reveals >78% to be average or above, with the English-Indian group being more evenly

distributed across four levels: below average to very good.

#### 4. Phonics.

Knowledge of letter sounds and ability to blend three or four sounds into words was rated average or above for 76% of the English-Eurocentric group and 78% of the English-Zulu group but 62% of the English Indian subjects were above average, 15% were below average, and only 8% fall into the average range.

#### 5. Written.

The ability to write English sentences unaided was a very difficult skill for the English-Zulu children with more than half of the group being below average, but the English-Eurocentric and the English-Indian groups achieved average or above in this skill reflecting 71% and 69% respectively.

#### 6. Oral Comprehension.

Having the ability to understand instructions and follow what is being taught is crucial for school beginners. The percentages of satisfactory or above average for the three groups were: English-Eurocentric 93%, English-Indian 85% and English-Zulu 78%.

#### 7. Maths.

For the English-Eurocentric and English-Indian groups approximately 85% of the children were average or above although only a few of the Indian children achieved the 'very good' rating. The English-Zulu children compared at 78%.

#### 8. Overall.

This grading was intended to indicate readiness to proceed to grade two. It appeared that the transition would be smooth for 90% of the English-Eurocentric group, 78% of the English-Zulu group and 77% of the English-Indian group. Achievement levels for the different language culture groups are set out in Table 12.

It is noted that the English-Indian language culture group



form <15% of the sample so conclusions in regard to performance are at best speculative.

**Table 12 Achievement Levels of the Three Language Culture Groups**

		5	4	3	2	1
Oral	EE	Nil	47.62%	45.24%	7.14%	Nil
	EI	Nil	46.15%	46.15%	7.69%	Nil
	EZ	Nil	12.5%	43.75%	37.5%	6.25%
Word Recognition	EE	9.52%	14.29%	57.14%	16.67%	2.38%
	EI	23.08%	38.46%	30.77%	7.69%	Nil
	EZ	6.25%	21.88%	50.0%	18.75%	3.13%
Fluency	EE	11.9%	16.67%	61.9%	14.29%	Nil
	EI	23.08%	30.77%	30.77%	15.38%	Nil
	EZ	Nil	34.38%	43.75%	18.75%	3.13%
Phonics	EE	2.38%	38.1%	38.1%	19.05%	2.38%
	EI	7.69%	61.54%	7.69%	15.38%	7.69%
	EZ	3.13%	43.75%	34.38%	6.25%	12.5%
Written	EE	4.76%	14.29%	57.14%	21.43%	2.38%
	EI	Nil	30.77%	38.46%	30.77%	Nil
	EZ	Nil	9.38%	37.5%	53.13%	Nil
Oral Comprehension	EE	Nil	28.57%	64.29%	7.14%	Nil
	EI	Nil	46.15%	38.46%	15.38%	Nil
	EZ	Nil	21.88%	56.25%	21.88%	Nil
Maths	EE	Nil	28.57%	57.14%	11.9%	2.38%
	EI	7.69%	30.77%	46.15%	15.38%	Nil
	EZ	Nil	28.13%	50.0%	21.88%	Nil
Overall	EE	Nil	21.43%	69.05%	4.76%	4.76%
	EI	Nil	38.46%	38.46%	23.08%	Nil
	EZ	Nil	15.63%	62.5%	21.88%	Nil

EE = English-Eurocentric

N = 42

5 = very good

EI = English-Indian

N = 13

4 = Above average

2 = Below average

EZ = English-Zulu

N = 32

3 = Average

1 = Very weak

#### 4.3.4.2 Achievement Levels of First and Second Language Learners

Although discrepancies in achievement may have been expected with regard to first and second language learners the differences demonstrated by these two subgroups in the sample were less than anticipated. Spoken English (oral) at average or above accounted for more than 94% of first language learners, whereas the same percentage ranged from above average to below average in respect of second language learners. However, in word recognition, reading ability (fluency) and phonics both groups compared equally with >71% of each subgroup falling into the average and above average categories. With regard to written English the majority of first language learners were in the average range, but with second language learners the majority were below average. The ability to understand instruction in English reflected >90% of first language learners being average or above average; this figure dropped to a little over 77% for second language learners. The Mathematics gradings were widely distributed and positively skewed for first language learners, but their second language peers had fairly evenly distributed scores in the above average, average and below average categories. Overall achievement levels of satisfactory or above accounted for 88% of the first language group and 77% of the second, indicating that 12% and 23% respectively had not reached the level required for easy transition to grade two. Full comparisons are set out in Table 13.

**Table 13 Achievement Levels of First and Second Language Learners**

		5	4	3	2	1
<b>Oral</b>	1LL	Nil	46.15%	48.08%	5.77%	Nil
	2LL	Nil	17.14%	40.0%	37.14%	5.71%
<b>Word Recognition</b>	1LL	13.46%	21.15%	50.0%	15.38%	Nil
	2LL	5.71%	20.0%	51.43%	17.14%	5.71%
<b>Fluency</b>	1LL	11.54%	21.15%	53.85%	13.46%	Nil
	2LL	Nil	31.43%	45.71%	20.0%	2.86%
<b>Phonics</b>	1LL	3.85%	44.23%	30.77%	19.23%	1.92%
	2LL	2.86%	42.86%	34.29%	5.71%	14.29%
<b>Written</b>	1LL	3.85%	19.23%	53.85%	23.08%	Nil
	2LL	Nil	8.57%	37.14%	51.43%	2.86%
<b>Oral Comprehension</b>	1LL	Nil	32.69%	59.62%	7.69%	Nil
	2LL	Nil	22.86%	54.29%	22.86%	Nil
<b>Maths</b>	1LL	1.92%	28.85%	55.77%	11.54%	1.92%
	2LL	Nil	28.57%	48.57%	22.86%	Nil
<b>Overall</b>	1LL	Nil	25.0%	63.46%	9.62%	1.92%
	2LL	Nil	17.14%	60.0%	20.0%	2.86%

1LL = First Language Learners N = 52

2LL = Second Language Learners N = 35

5 = Very good 4 = Above average 3 = Average

2 = Below average 1 = Very weak.

#### **4.3.5 Summary of Descriptive Statistics**

The acquisition of some basic concepts about print is crucial in the initial stages of development of the reading process. The CAP test, even in an abridged form, can be seen as a sensitive indicator of one group of behaviours which support reading acquisition. In stimulating an actual reading situation it allows the child to demonstrate how one goes about the task and whether or not he has the requisite tools

to do so. A success rate of 51% for the whole sample showed many subjects had not yet acquired sufficient concepts to operate successfully. The English-Indian group showed most concept development on this measure, whereas the second language learners were seriously disadvantaged.

It has been previously noted that a considerable body of research confirms that metalinguistic awareness is associated with the development of the ability to read: The MAIS seeks to determine to what extent subjects' are aware of the lexical content of oral language and also their ability to use language to discuss and analyze language. It would appear to be a matter of concern that comparatively few of the subjects had any idea of the purpose of reading, that it was a desirable attribute or that there would be any benefit in acquiring such skill. To a lesser extent there was confusion with regard to the content of books and also a lack of understanding of the concepts 'sentence', 'sound', 'alphabet' and 'language'. These problems were exacerbated amongst second language learners. In contrast, the group as a whole, as well as the various sub-groups demonstrated a good understanding of the segmentation tasks. In consequence the overall success rate on the MAIS was 62.75%.

Inspection of achievement levels after a years tuition suggests that development had occurred in both metalinguistic awareness and concepts about print for the group as a whole, as well as all the component sub-groups. These aspects will be explored more fully in the inferential statistics section.

#### 4.4 Inferential Statistics

Inferential statistics are important in educational research since it is rarely possible to study a whole population. However, these analyses will be interpreted with caution since only two schools were included in the study. The data

that were analyzed on the SPSS programme : - The reliability of the two measurement instruments, CAP and MAIS. The correlational statistics included demographic variables, item analysis of the CAP and the MAIS, achievement variables and observational data. This all inclusive correlational matrix allowed the researcher to analyze the extent of the interrelatedness of variables. However, the anecdotal nature of the observational data precludes its inclusion in the results. Main consideration will be given to the correlations of the CAP with MAIS, MAIS with achievement and CAP with achievement. Multiple regression analyses were conducted to determine the predictive value of the CAP and the MAIS components in terms of language development, reading acquisition and readiness for grade two.

#### 4.4.1 Reliability of Measurements

The importance of reporting reliability for instruments used in metalinguistic research is stressed by Dreher & Zenge (1990). As the MAIS in this study had some minor adaptations, in the interests of user friendliness in the South African setting, the reliability was analyzed for comparison by the Kuder-Richardson Formula 20, employed by Dreher & Zenge, which is considered to be a conservative estimate. The current .77 reliability does not differ from that found by Dreher and Zenge, a figure which they considered to be relatively high, as the Kuder-Richardson formulas are thought of as providing a minimum estimate of reliability of a test.

Although no reliability was reported by Clay (1985) for the CAP test it was felt to be important to establish reliability in this instance, in view of the changes effected in the abridged version of the CAP used in this study. An alpha of .71 suggests that reliability of the abridged CAP was at an acceptable level.

#### 4.4.2 Correlational Data

The total CAP score correlated significantly with the total

MAIS score, with the MAIS components dealing with 'words used in reading instruction' and in the 'segmentation of words,' featuring as highly significant with regard to their interrelatedness. Only correlations significant at the  $p = <.001$  level will be included here. Other significant correlations will be found in Appendix 7.

**Table 14 Pearson Correlations: CAP Items with MAIS Total**

CAP Variables	r	p
Print tells the story	.35	<.001
Reading proceeds from L to R across the line	.33	<.001
Return sweep to subsequent line	.46	<.001
Pointing word-for-word as text is read	.33	<.001
Concept: first/last	.48	<.001
Print inversion	.38	<.001

**Table 15: Pearson Correlations: MAIS Items and Components with CAP Total**

MAIS Variables	r	p
Content of books	.34	<.001
Segmentation of three words	.50	<.001
Segmentation of two words	.40	<.001
Segmentation of four words	.40	<.001
Knowledge of the alphabet	.35	<.001
Visual segmentation of letters	.33	<.001
Component: Segmentation of words	.49	<.001
Component: Words used in reading instruction	.56	<.001

**Table 16 Pearson Correlations: CAP Items with Words Used in Reading Instruction Component of MAIS**

CAP Variables	r	p
Print tells the story	.38	<.001
Concept: first/last	.46	<.001
Print inversion	.41	<.001
Alphabet matching	.37	<.001

In addition CAP Item 5: the return sweep to the subsequent line of print correlated highly with the MAIS segmentation of words component:  $r = .60$ ;  $p = <.001$ .

Correlational data showing the interrelatedness of the CAP test and the MAIS with Achievement will be reported here at the  $p = <.001$  significance level, but further significant correlations will be found in Appendix 8.

**Table 17 Pearson Correlations: Achievement Categories with CAP Total**

Achievement Variables	r	p
Oral language	.49	<.001
Word recognition	.33	<.001
Reading fluency	.41	<.001
Written language	.38	<.001
Oral comprehension	.41	<.001

**Table 18 Pearson Correlations: Achievement Categories with MAIS Total**

Achievement Variables	r	p
Oral language	.52	<.001
Reading fluency	.43	<.001
Phonics	.34	<.001
Written language	.41	<.001
Oral comprehension	.40	<.001
Mathematics	.34	<.001

**Table 19 Pearson Correlations: Achievement Categories with Words Used in Reading Instruction Component of MAIS**

Achievement Variables	r	p
Oral language	.43	<.001
Word recognition	.41	<.001
Reading fluency	.53	<.001
Phonics	.34	<.001
Written language	.38	<.001
Oral comprehension	.46	<.001
Mathematics	.40	<.001
Overall readiness for grade two	.38	<.001

Discussion on these data will be included in Chapter 5.

#### **4.4.3 Multiple Regression Analyses**

In the multiple regression analyses (stepwise procedure) the predictive value of the MAIS components and the CAP items were collectively investigated in terms of various achievement categories: spoken language and communication



skills; reading acquisition and preparedness for grade two. The categories included are oral language ability (ORAL), comprehension of spoken English (ORAL COMPR.), reading ability (FLUENCY), word recognition (WR) and phonics (PH), the readiness, or otherwise, of the child to proceed to grade two after one year's instruction (OVERALL).

**Table 20 Regression of MAIS, CAP and ORAL**

Predictors	Ad. R Sq	Beta	F value	T value	Sig of T
Words used in reading inst.	.17	.42	18.29	4.28	<.001
Aural segmentation of words	.26	.33	16.03	3.40	<.001

Inst. = instruction

**Table 21 Regression of MAIS, CAP and WORD RECOGNITION**

Predictors	Ad R Sq	Beta	F value	T value	Sig of T
MAIS Total	.08	.30	8.10	2.85	.006
Concept: first/last	.10	.34	10.81	3.29	.002
Words used in reading inst.	.14	.39	15.31	3.91	.001
Alphabet matching	.14	.23	8.20	2.25	.03

**Table 22 Regression of MAIS, CAP and FLUENCY**

Predictors	Ad R Sq	Beta	F value	T value	Sig of T
Concept: first/last	.13	.37	13.30	3.65	.001
Inversion: picture and print	.17	.25	9.92	2.41	.02
MAIS Total	.17	.43	19.24	4.39	.001
Words used in reading inst.	.23	.49	27.18	5.21	.001
Visual seg. of words/letters	.26	.44	16.38	4.65	.001

seg. = segmentation

**Table 23 Regression of MAIS, CAP and PHONICS**

Predictors	Ad R Sq	Beta	F value	T value	Sig of T
Words used in reading inst.	.07	.29	7.54	2.75	.007
Visual seg. of words/letters	.10	.23	5.92	2.23	.03
MAIS Total	.10	.35	11.51	3.39	.001
Concept: first/last	.11	.34	10.87	3.30	.001

**Table 24 Regression of MAIS, CAP and ORAL COMPREHENSION**

Predictors	Ad R Sq	Beta	F value	T value	Sig of T
Words used in reading inst.	.15	.40	16.00	4.00	.001
Visual seg. of words/letters	.19	.24	11.21	2.36	.02

**Table 25 Regression of MAIS, CAP and OVERALL**

Predictors	Ad R Sq	Beta	F value	T value	Sig of T
MAIS Total	.09	.32	9.38	3.06	.003
Concept: first/last	.10	.33	10.29	3.21	.002
Words used in reading inst.	.15	.40	16.48	4.06	.001

In terms of achievement the MAIS component: words used in reading instruction (Items 4, 15, 18-20) was found to be a significant predictor of oral language ability ( $p = <.001$ ), sight vocabulary ( $p = <.001$ ), reading fluency ( $p = <.001$ ), phonics ( $p = <.007$ ), oral comprehension of instruction in English ( $p = <.001$ ) and overall readiness to proceed to grade two ( $p = <.001$ ). The ability to segment the words of a sentence aurally (MAIS Items 10-14) was found to be a contributor to the prediction of word recognition ability. The ability to segment words and letters visually (MAIS Items 16,17) was significantly linked to reading fluency ( $p = <.001$ ), phonics ( $p = <.03$ ) and oral comprehension of English ( $p = <.02$ ). The total MAIS score significantly predicted word

recognition ( $p = <.006$ ), reading fluency ( $p = <.001$ ), phonics ( $p = <.001$ ) and overall preparedness for grade two ( $p = <.003$ ). The CAP concept of the beginning and end of the story (Item 7) significantly predicted word recognition ( $p = <.03$ ) only, and inversion of picture and print (CAP Items 8, 9) predicted reading fluency ( $p = <.02$ ) only. None of the other CAP or MAIS items were found to be significant contributors to the prediction of achievement at the end of grade one. The significant findings will be further considered in Chapter 5.

## CHAPTER FIVE

### DISCUSSION

#### 5.1 Introduction

This study has sought to explore some of the problems school beginners face when they are confronted with the task of learning to read. If it is possible to obviate some of their problems from the outset reading acquisition skills would be enhanced and early reading difficulties could be proactively addressed. By investigating a socioculturally diverse group of grade one beginners the specific needs of varying language cultures, and in particular, the characteristics of second language learners, have been considered.

In order to contextualise the results of this study certain aspects of the reading process should be borne in mind. It has been established that learning to read requires mastering orthography - the system by which print encodes language. This implies that the child needs to understand how spoken language works in relation to printed language. The speech stream comprises units that correspond to orthographic units (Rieben & Perfetti, 1991). This argument supports the use of the Concepts about Print (CAP) test to supplement metalinguistic awareness (MAIS) assessment to measure the level of concept acquisition in these two important areas. Children's performance on tests designed to measure print awareness is found to predict future reading achievement (Adams, 1990).

It is important to remember that a large number of children in the South African context may have grown up in an environment where exposure to print may have been limited, so initial estimates on the CAP and MAIS may be

underestimations of their potential development of readiness to read. Many children receive a minimum of story reading, often only in a preschool facility. Although this is better than nothing, influences which have the most impact upon the young child are to be found within the home environment. Both Clay (1979) and Adams (1990) highlight the fact that a great number of children entering formal education lack literacy experiences or encouragement towards it. These children have no books of their own. In some cases pencils and paper, colouring books and crayons are unavailable. The significant adults in these children's lives do not read books or newspapers. Adams (1990) maintains that before children can learn to read they must become aware of the structure of language, from sentences and words to phonemes. Most important they must develop a basic understanding of the forms and functions of text and of its personal value to their own lives. Accepting that this is the case, teachers of school beginners need to recognize that the disadvantaged child will have no concept of letter or word; he will be unaware that print operates from left to right; he will not know that words and sentences convey a message, and he may even have no idea which is the front and which is the back of a book.

These multiple issues surrounding school beginners are both varied and complex. One of the most important, if not the major task, with which the beginner is faced, is learning to read. By exploring certain aspects of metalinguistic awareness and some basic concepts about print this study has aimed at describing the level of development of a group of South African beginner readers. With the above considerations in mind the major findings of the study will now be presented. Firstly, the overall group characteristics will be discussed.

## 5.2 Major Findings

Given that language awareness plays an important role in learning to read, previous research indicates that many beginning readers exhibit a lack of understanding of the purpose of reading and the content of books, confusion regarding instructional terms, and problems in isolating language units (Denny & Weintraub, 1966; Downing, 1969, 1970; Evans, Taylor and Blum, 1979; Holden & McGintie, 1972; Johns, 1977; Reid, 1966). All these factors are thought to hinder reading acquisition skills.

The performance of the grade one children in this study generally reflects the findings of earlier research in this area. It is hypothesized that:

The degree of development with regard to specific aspects of metalinguistic awareness, as well as the level of basic concepts about print, that the child has acquired upon entering first grade, will be the basis upon which the reading process develops and matures.

Questions emanating from the hypothesis will be related back to the two measures employed in the study: the Metalinguistic Awareness Interview Schedule (MAIS) and the abridged Concepts about Print (CAP) test. Thereafter, achievement levels after one year of reading tuition will be discussed.

Question 1. To what degree do beginning readers exhibit an understanding of the purpose of reading and the content of books?

The MAIS items 1-3 covered this aspect of metalinguistic awareness. Each of these answers required the child to give evidence that he understood reading to be a meaning-gathering process. The results show clearly that the group as a whole had little understanding of what one does when one reads; the actual purpose of the activity. Only six of the eighty-seven (6.9%) children gave acceptable responses which included, "To

learn"; "To find out the story"; "To know/understand/read the words on the page". This concept was by far the most difficult for the beginning readers in this study. Rather more subjects (17, 19.54%) gave appropriate replies to why they wanted to learn to read: "You can read the story for yourself"; "I can read my baby brother/sister a story"; "I can learn about things"; "So I can read stories to my kids"; "So I know what it says". These pupils demonstrated that they were motivated with regards to acquiring reading skills. As far as the content of books was concerned thirty-five (40.22%) children gave adequate responses, most of them indicating that books contain stories, but a few mentioned science, information, knowledge and things to learn about, thus showing they had good reasons for finding out what books contained. To return to the question under discussion.

It can be seen that more than three-quarters of the sample had no concept of the purpose and process of reading. This could place the child in an unfavourable position with regard to the acquisition of reading skills. Also the subjects' knowledge of the content of books was restricted in that either they did not know, or if they did, the response only involved stories, in most of the cases. Indeed, given that motivation is a key factor with regard to learning, the majority of the children had not developed a *raison d'être* for becoming readers.

Question 2. How familiar are grade one beginners with basic Concepts About Print that tend to be taken for granted by adults?

The results of the abridged CAP items 1-5 and 7-9 will be discussed as pertaining to the second question. Firstly, the children's orientation to books was the least problematic of these tasks with eighty-two (94.25%) demonstrating quite clearly that they knew how to handle a book. However, when they were required to show they knew that the print, and not the picture, carries the story, successful responses dropped

to fifty (57.47%). This would appear to indicate that although subjects have had access to books, many of them had not been actively involved in story reading at home or at school. Items 3-5 dealt with directionality rules. The ability to point to the exact starting point, when beginning to read a story proved to be the most difficult of all the CAP items for the group. Only fifteen (17.24%) children made it clear that one begins with the first word in the top lefthand side of the first page. This was followed by a request from the researcher to show which way to go (left to right) across the line of print. This concept was better established with a correct response from 42 (48.28%) subjects. The last directionality item required the children to show the return sweep to the subsequent line of print, and this was surprisingly easy for most of them, sixty-seven (77.01%) signalling the correct movement with ease. Credit was given if all these directionality movements were demonstrated in a single response. The average achievement on directionality overall was nearly 50%. Obviously this skill is critical when the child is introduced to his first reading book, yet more than half the children in the sample lacked the skills necessary for operating on the printed language they would soon encounter in their first reading experiences in the classroom. Next the children had to identify the first part and the last part of the story. Both first and last had to be clearly defined for credit to be given and in this case there were forty-two (48.28%) correct responses, once again just a little under half of the sample. For the two items that dealt with inversion (picture and print) the response was marginally better (50.58%), the picture being less confusing than the printed page.

Altogether 56% of the sample could be said to be familiar with basic concepts about print at initial entry into grade one. It should be remembered however, that the abridged CAP Test only deals with the very basic concepts regarding printed material. Assuming that these concepts will develop



automatically should therefore not be taken for granted.

Question 3. May we assume that beginner readers are easily able to identify sentence boundaries aurally?

Having established that the concept 'sentence' was understood, the children were given practice examples with the researcher modelling the correct response. The children were then given the opportunity to practice for themselves, only proceeding to MAIS items 5-9 when it was clear that they understood what was required. It seems possible that this approach generated a great deal of self-confidence amongst subjects because most of them succeeded in responding correctly; >85% on the five items. The one short sentence was easier to identify as a single sentence than the one long sentence. The two-sentence and four-sentence items were also easier than the three-sentence item.

Identifying sentence boundaries when listening to speech was a relatively easy task for the group once the concept of sentence had to be established. Also the response format was tightly structured and interest was sustained by the subject's active participation in moving the toy cars. Mediation appeared to create a headstart for the children. Thus it may be assumed that pupils are able to identify sentences boundaries in speech fairly easily, with the proviso that the task is mediated.

Question 4. Are beginner readers able to identify and isolate language units and do they understand basic instructional terms?

The language units the pupils were required to isolate in addition to sentences, were words and letters and the additional basic instructional terms included alphabet, sound and language. In the MAIS items 10-14 subjects had to repeat the procedure used for identifying sentence boundaries, but in this case the language unit was the word. Care was taken that the concept was understood and practice examples were

once again given. The two word sentences were more easily identified than the four word sentence. Similarly, as in the case of the sentence segmentation section, the two three word sentences were the most difficult for the group as a whole. The overall success rate in the aural segmentation of words section was >76%. MAIS item 16 required the children to segment words visually by counting the number of words (4) in a sentence printed on a card in large letters; 73 of the children (83,91%) complied without hesitation. This item was similar, but simpler than CAP item 6 where the children had to point word-for-word as the text was being read to them. This task was more difficult as it comprised several sentences and the print was of smaller (first grade reader) size. Success rate was reduced to <35%. MAIS item 17 dealt with segmentation of letters. Here the children had to count the letters in the four word sentence printed on the same card used for item 16. The unsuccessful subjects failed to differentiate between letters and words, as counting per se posed no problems. The success rate was >71%. Awareness of language structure develops as a progression. The current research confirms past findings that sentences are easier to differentiate than words, words are easier than individual letters.

Apart from pointing word-for-word all the segmentation tasks were well performed. This could have been affected by the modelling and practice afforded the children prior to tackling the tasks. It supports Vygotsky's (1978) theory of the zone of proximal development. The method employed cast the researcher in the role of mediator by giving guidance to the child, and thus enabling him to progress from his actual developmental level to his potential level of metalinguistic awareness in a relatively short space of time."

Turning to the evaluation of the subjects understanding of instructional terms commonly used with beginning readers MAIS item 4 asked the children to define or give an example of the

term 'sentence'. Only two (2.3%) attempted to explain that it meant putting words together to say something; to make sense. A further sixteen (18.39%) subjects gave concrete examples of actual sentences which were acceptable responses. This question was posed prior to the segmentation tasks where mediation was given to the subjects with regard to the concepts 'sentence' and 'word'. Individual problem-solving which was not mediated resulted in a little more than 20% of subjects being credited with the concept of 'sentence'. The concept 'alphabet' has been identified as a key factor in the development of the reading process. MAIS item 15 and CAP item 10 revolved around knowledge of the alphabet and ABC as having the same referent and also matching certain upper-case and lower-case letters visually. There were thirty-seven (42.53%) appropriate responses indicating that the terms alphabet and ABC are interchangeable and these pupils were able to recite at least half the alphabet correctly, whilst many were letter perfect. However, only twenty-five (28.74%) pupils could correctly match at least three upper- and lower-case letters, when the letter names and sounds were introduced. In the group of 14 subjects who were found to be underachieving at the end of their grade one year, 8 had not been able to answer either of the alphabet questions when they first entered grade one, and a further 3 were unable to match certain upper and lower case letters. But in the group of 73 achievers, 15 had not been able to answer the two alphabet questions, and another 2 had not been able to do alphabet matching, at the beginning of the year. MAIS item 18 asked the specific question, 'What is a sound?'. Only one child explained that it was the noise the letter makes. A further twenty-six children gave various letter sounds as examples, but still less than one third of the sample were able to give an acceptable response. Finally, MAIS items 19 and 20 dealt with the concept of 'language'. There were forty-five (51.72%) children who said they spoke a language but when probed further seventy-two (83.75%) subjects knew they spoke English (or Zulu). When asked for the names of

other languages most children mentioned Afrikaans, although a number of European and Indian languages were also included amongst the responses offered.

These results appear to confirm that a considerable amount of confusion exists in the minds of beginner readers regarding basic instructional terms. It became patently apparent that terms such as 'word', 'letter', 'name', 'number', and 'sound' had interchangeable meanings in these beginners vocabularies. This single problem opens up a whole field of investigative possibilities.

Inspection of the major findings indicate that a number of children had not reached full criteria in their declarative metalinguistic awareness as measured by the MAIS and the CAP. In summarizing the answers to questions related to the hypothesis it can be seen that only 25% of the sample had an understanding of the purpose of reading, and only 40% knew the content of books. Familiarity with basic concepts about print was restricted to 44% of the children. However, in the mediated tasks of identifying sentence boundaries there was an 85% success rate. Similarly, isolating smaller language units had a success rate of 77% when mediated, but on an unmediated task success was reduced to <35%. Finally, understanding of instructional terms reflected approximately 38% acquisition. Analysis of the follow-up procedure will make it possible to determine how accurately the two initial measures predicted the academic outcome of the group.

#### 5.2.1 Follow-up Procedure

Inspection of the major findings leads to the hypothesis that:

Appropriate early screening in the areas of metalinguistic awareness and concepts about print should identify children who are confused, and who may therefore find the acquisition of reading skills difficult.

The continuous assessment ratings allocated by the class teacher formed the basis of the academic grade points each child was given in various aspects of language development, mathematics and an overall grade indicating the readiness, or otherwise, of the child to proceed to grade two.

Despite initial shortcomings with regard to basic concepts about print and specific aspects of metalinguistic awareness reflected by the results of the CAP and MAIS assessments the group as a whole manifested pleasing concept and awareness development. Overall progress showed that approximately 84% of the sample was ready for promotion to grade two. So although the two measurements used in this study undoubtedly identified apparent lack of metalinguistic awareness in certain areas the developmental process was sufficiently accelerated in about 25% of cases for them to be judged ready for entry to grade two.

Close inspection of the data revealed that at the end of grade one there were 14 pupils who had below average achievement. Seven of them had been below average on both the CAP and the MAIS at the beginning of the year. Two pupils were below average on the MAIS only, and a further two on the CAP only at that stage. However, three pupils who had performed most satisfactorily on both the CAP and the MAIS initially, were found wanting with regard to achievement level at the end of the year.

It is interesting to note that out of the 73 pupils who attained average or above average achievement levels at the end of grade one, nineteen were below average on both the CAP and the MAIS assessments, although a few were only marginally so. Another ten children were below average in the CAP only and a further ten on the MAIS only.

Summarizing the situation shows that a total of 26 children had deficits on both the CAP and the MAIS at the beginning

of the year but only 7 of them were rated below average after a years' tuition. A further 12 pupils had deficits in the CAP only in the beginning, and of these just two made unsatisfactory progress. Likewise with the MAIS there were 12 pupils who were below average initially but only two who remained so after their first year in school. So from the fifty children who presented with some problems initially with regard to concepts about print or metalinguistic awareness or both, only eleven were below the standard required and were not expected to make a smooth transition to grade two. However, as already mentioned there were three children, an English-Eurocentric female, and English-Indian male, and an English-Zulu female, who, although they coped admirably with both the CAP and the MAIS at the outset, did not make satisfactory progress during their grade one year. These children had little in common except that they were 6 years old and that a degree of immaturity had been noted by both their three different class teachers and the researcher. They were all motivated and attentive in their interviews and performed well in the one-to-one situation. It may be that they had difficulty in adjusting to the formal structure of grade one and required some alternative form of mediation for them to achieve their potential. Personal and emotional factors could have impinged upon their class performance but it is not possible to speculate on these.

#### 5.2.2 Main Findings of Inferential Statistics

Many correlational studies (see review by Wagner & Torgeson, 1987) have shown that beginning reading success is predicted by pre-reading measures of phonological knowledge. As reported in Chapter 4 the reliabilities of the CAP and the MAIS were reasonably high so a degree of confidence may be attached to the interpretation of the findings.

Reading behaviours reflected in six of the CAP items that correlated highly with the overall stage of metalinguistic awareness as measured by the MAIS (Table 14) indicate that

a low level of metalinguistic awareness will be in operation when the child realizes that print tells a story, that reading proceeds from left to right across the line and returns with a return sweep to the subsequent line of print. Also when the child understands where the story starts and finishes, and that inverting the printed page does not change any of the above procedures. Metalinguistic ability is implicated too, in the child's ability to segment words as he points to each word as it is being read. Similarly metalinguistic awareness as measured by six MAIS items and two MAIS components correlated highly with the CAP (Table 15) indicating that basic concepts about print relate to metalinguistic awareness in the following areas: understanding what is in a book, realizing that sentences are made up of words, demonstrating the ability to segment the letters in words visually, as well as knowledge of the alphabet and words used in reading instruction. In addition, the MAIS component 'words used in reading instruction' correlated highly with four CAP items (Table 16) from which may be inferred an understanding of the vocabulary that the teacher makes use of in reading lessons is significantly related to the knowledge that the printed symbols of words tell the story, knowing where the story begins and ends, knowing that inverted print does not change the nature of the story sequence, and awareness that upper case letters may be matched to lower case letters of the alphabet by name and by sound.

It is noted that the total CAP correlate highly with the total MAIS ( $r = .64$ ,  $p < .001$ ), and of the remaining four CAP items, not already discussed, three were significantly correlated to the total MAIS at the  $p < .01$  level (see Appendix 8). As expected the only non-significant item was the childrens orientation to the book.

Although the current study was of a descriptive nature, the correlations of the CAP to achievement level and MAIS to

achievement level formed part of the data base and are therefore included in the discussions (Tables 17 and 18). Both measures reveal the importance of oral language in relation to academic achievement. Further, the CAP correlates highly significantly with comprehension of what is being said by others, written English ability, reading fluency, and word recognition. Problems at the word recognition level of processing can be critical, as this accounts for a large proportion of the variance in reading ability in the early grades according to Stanovich (1991). In addition, Mathematics achievement and readiness for grade two were significantly correlated with CAP at the  $p < .01$  level. However, as expected, phonics was not significantly correlated with achievement and concepts about print.

As well as oral language, MAIS was highly significant in the achievement of reading fluency, written language, oral comprehension, Mathematics, and phonics. It seems likely that decoding skill plays a vital role in early reading acquisition, as this ability will determine the direction that reading achievement takes as the child proceeds through the grades. There were no non-significant areas of achievement in respect of the MAIS, as both word recognition and overall preparedness for grade two also reflected a significance level of  $p < .01$ .

Dreher & Zenge (1990) stressed that the aspects of metalinguistic awareness that they included in the MAIS were those most often taken for granted in the classroom. It is of interest, therefore, that the MAIS component 'words used in reading instruction' should appear as highly significant with regard to all areas of achievement receiving grade points by the class teachers of this socioculturally diverse group of school beginners (Table 19). More than half the subjects demonstrated confusion and uncertainty when required to indicate their declarative knowledge of terms such as 'sentence', 'word' or 'sound'. Teaching these concepts to



grade one beginners could therefore be considered as top priority.

The regression analyses served to confirm the importance of the MAIS component 'words used in reading instruction' as accounting for a percentage of the variance in spoken language, including comprehension, various reading skills, and readiness for grade two (Tables 20-25). The MAIS total and the CAP item pertaining to the beginning and end of the story likewise accounted for variances in reading skills and readiness for grade two (Tables 21-23, 25).

### 5.2.3 Summary of Findings

Lack of understanding of the process and purpose of reading, and to a lesser extent understanding regarding the content of books, suggested that the group as a whole would not be motivated to acquire the necessary skills for reading acquisition. Further, it should not be assumed that concepts about print will develop automatically, or that these beginners have incorporated words used in reading instruction into their vocabularies. However, mediated tasks showed that the children were able to achieve their potential to assimilate knowledge with relative ease.

The findings as outlined above suggest that the predictive validity of metalinguistic awareness measures for beginning readers should be regarded with caution. Mediation experiences in the first year of school may well be informed by such measures. While the MAIS and the CAP, for this particular group, may not have been predictive of achievement compared with other studies, situational factors may have affected the outcome. Firstly, it must be remembered that many of the children came from backgrounds non-conducive to preschool literacy experiences. Further, there were large proportions of second language learners in three of the four class groups, whilst the fourth class group was comprised solely of English second language pupils. Therefore, it would

appear that the academic success achieved by these pupils in grade one, was due, in no small part, to the mediational role which the teachers assumed in the given circumstances.

Although the research findings have thus far been considered for the group as a whole, at this point it is appropriate to look at the sociocultural diversity within the sample.

### 5.3 Reflections on Findings

Some observations with regard to language culture, as well as to first and second language learners will now be considered. The different sub groups defined in terms of cultural, linguistic and ethnic origins generally followed the trends of the group as a whole, and differences, when found, could be seen to be the result of differing situations or circumstances. This is the view of Cole & Bruner (1971) in their criticism of the "deficit hypothesis". They maintain that different conclusions about the world are the result of arbitrary and different, but equally logical, ways of interpreting experience.

#### 5.3.1 Language Culture

The main features that emerged from the results of the different language culture groups on the two measurement instruments and on achievement levels after one year's tuition are outlined below. The English-Indian group demonstrated advanced development in concepts about print except for one child who appeared developmentally disadvantaged in all areas. The rest had obviously enjoyed preschool literacy exposure whether at home or preschool facility, but probably both. Apart from the developmentally disadvantaged child, the previously mentioned child who did not make the grade in spite of ostensibly good potential, and another child who was considered to be borderline in respect of achievement, all the English-Indian children made pleasing

progress with regard to word recognition, phonics and reading fluency.

In the English-Eurocentric group concepts about print reflected approximately 50% acquisition by the group as a whole. Four children who demonstrated poor concepts about print performance also reflected poor word recognition, phonics and reading fluency, and two of these did not achieve the required standard overall. However, a further nine who did poorly on the concepts were making satisfactory progress in reading by the end of the year.

More strikingly, the English-Zulu group reflected poorly developed concepts about print in 25 of the 32 pupils. However, by year end only six of these pupils still manifested poor word recognition, phonics and reading fluency, and five of these fell below the standard required overall. Although the English-Zulu children may have been disadvantaged to begin with due to their particular language culture, the majority ceased to be disadvantaged once they were exposed to the hitherto unknown concepts.

In the metalinguistic awareness assessment (MAIS) 15 pupils in the English-Eurocentric group had less than adequate development. However, by the end of the year only four were still not achieving satisfactorily in word recognition, phonics and reading fluency, and two of these pupils were below the standard required in all areas of achievement.

The English-Indian group did rather better than the other groups on the MAIS component: terms used in reading instruction. Four of these pupils manifested underdeveloped metalinguistic awareness, although by the end of the year three had adequate reading skills, with one of them being borderline overall. One English-Indian pupil failed to meet the academic requirements of grade one but as already noted this appeared to be due to developmental disadvantage.

The English-Zulu group were somewhat better initially in the metalinguistic awareness performance than they had been with concepts about print. Only 5 of the 19 pupils who did poorly on the MAIS at the start failed to make satisfactory progress in word recognition, phonics and reading fluency and 4 of these shared overall underachievement.

Regardless of initial performance on the two measures, most children in the different culture groupings did acquire basic reading skills by the end of first grade. In the English-Indian group the importance of books seems to have been stressed, in contrast to the English-Zulu group where books are not part of the cultural heritage. Further, the English-Indian group did well on the MAIS component 'words used in reading instruction' which proved to be highly significant in later achievement levels. In the English-Zulu group metalinguistic awareness appeared to be more an intrinsic characteristic that only emerged after mediation occurred in the classroom.

The most notable findings with regard to the three language culture groups in respect of achievement after one year's tuition appear to be:

- (i) The English-Zulu group, not unexpectedly, had problems with spoken and written English;
- (ii) All three groups were relatively comparable after receiving tuition in word recognition, phonics and reading fluency;
- (iii) Likewise mathematics showed only slightly lower achievement levels in the English-Zulu group;
- (iv) English-Indian and English-Zulu children were a little less prepared for the transition to grade two than the English-Eurocentric group.

The following table gives details of the 14 children who were still below average after their grade one year, according the language culture grouping:

**Table 17 Underachievement in different language cultures**

	Total Under-achievement	MAIS & CAP Satisfactory	MAIS & CAP Un-satisfactory	MAIS Unsatisfactory	CAP Unsatisfactory
English-Eurocentric	4 (N 42)	1 female	1 male	1 male	1 male
English-Indian	3 (N 13)	1 male	1 male	1 male	-
English-Zulu	7 (N 32)	1 female	3 males 2 females	-	1 female

Clay (1979) defines two categories of slow learners: (i) those due to cultural and linguistic differences; (ii) those due to cognitive confusion. It is possible to add a third category of children who have cognitive deficits. But as none of the subjects in the current sample had been cognitively assessed, it is not possible to be definitive regarding cognitive ability per se. However, 11 of the below average achievers may be classified as having cultural and linguistic differences (one English-Eurocentric boy came from an Afrikaans home) and cognitive confusion was noted in 9 of the subjects. Clinical observations (see Appendix 4) made by the researcher showed cognitive confusion to be the most common characteristic with only the three children in the MAIS & CAP satisfactory group (see Table 17) not displaying such confusion. The second most common characteristic was that of hesitancy (8 children), followed by immaturity and motivation (7 children each). A common characteristic among the English-Zulu children was responsiveness. Not surprisingly, half of these pupils displayed poor task execution skills, and nearly as many were poor at following instructions. Once again demonstrating that factors other than level of metalinguistic awareness acquisition may be in operation in these children.



### 5.3.2 First and Second Language Learners

It is accepted that children need some level of oral proficiency in English as a prerequisite for effective literacy instruction. The exact level is unclear but the components of reading instruction are based on the assumption that learners bring with them a rich base of oral language upon which literacy skills can be built (Nurss & Hough, 1992). Thus the second language learner enters the school milieu seriously disadvantaged for it is the language he had heard at home that will determine the way he develops concepts about the world, and more specifically the tasks that await him in the classroom. The critical role of language in concept development may be summed up:

Vygotsky viewed language as a symbol system which represents socio-historical development. The child's set of frameworks available for interpretation of any situation reflects the organising concurrences of the whole culture, it is therefore difficult for a child to develop a concept that does not have a frame of reference within the culture of origin. (Schoeman, 1993, p.21)

The Concepts About Print measurement instrument showed the second language learners to be considerably behind their first language counterparts. The biggest discrepancies lay in the second language learners' ability to understand the idea of the beginning and the end of the story; how to segment words by pointing to each word as it was read aloud; realizing that the concept of the top and the bottom of the picture was not changed when the picture was inverted; and, being able to indicate the left to right sequence of print. These types of tasks were more difficult for second language learners in particular, whereas locating the first word of the story, matching capital with lower-case letters and, being able to show correct operations on inverted print were also relatively difficult for first language learners as well.

As far as metalinguistic awareness was concerned mediation appeared to work nearly as well for second language learners as it did for first language pupils. Although second language learners did not do so well on the segmentation tasks the discrepancies were small and the overall success rate high. But second language learners had far less knowledge of the purpose of reading as a meaning-gathering process, although two-thirds of the first language group did not demonstrate understanding either. Half of the first language learners were conversant with reading instruction vocabulary, whereas less than 40% of the second language group succeeded in these tasks.

In the area of achievement second language learners have most problems with spoken and written English. Much less of a problem, but still possibly somewhat of a stumbling block was their oral comprehension of English, which may have interfered with the capacity to learn what was being taught. In contrast, the second language learners were not far behind in the more directly mediated areas of word recognition, phonics, reading fluency and mathematics. Indeed, their phonics was better than that of the first language group. In conclusion, while larger differences appeared in the second language learners initial assessments on the MAIS and CAP, by the end of grade one reading ability was in line with their first language counterparts. However, spoken and written English still presented problems for the pupils whose home language was not the language of instruction.

The table below sets out the differences between the first and second language learners whose achievement was still below average at the end of their grade one year.

**Table 18 Underachievement in First & Second Language Learners**

	<b>Total Under achievers</b>	<b>MAIS &amp; CAP Satisfactory</b>	<b>MAIS Un- satisfactory</b>	<b>CAP Un- satisfactory</b>	<b>MAIS &amp; CAP Un- satisfactory</b>
<b>First Language Learners</b>	<b>6</b>	<b>1 male 1 female</b>	<b>2 males</b>	<b>1 male</b>	<b>1 male</b>
<b>Second Language Learners</b>	<b>8</b>	<b>1 female</b>	<b>-</b>	<b>1 female</b>	<b>4 males 2 females</b>

**5.3.3 Implications**

The interrelatedness of the language processes of listening, speaking, reading and writing is absolutely basic to all language learning and should be recognised in the classroom setting. The appropriateness of some current programmes in our schools will of necessity be called into question. Curriculum planners will need to adapt and develop to accommodate the changing structure in our schools. Teachers of the English second language learner, in making their meaning explicit need to take cognizance of the child's ability to understand. Nurss & Hough (1992) suggest that teachers should supply comprehensible input by speaking more slowly, making frequent and longer pauses, using exaggerated and simplified pronunciation, reducing the degree of subordination, increasing the use of declaratives and statements rather than posing questions, and employing more repetitions. These admirable suggestions need to be balanced quite delicately because of the multicultural nature of modern classrooms. Slabbert (1992) suggests that teachers will have to be educated to teach students to become competent metalearners, but the teachers themselves will have to become metalearners before they will be able to teach their students such strategies.



Nurturance of literacy requires that children be talked to as well as read to. They need exposure to rich language experiences. Reading is an acquired technique but it still needs to be embedded in dynamic language structures. Instilling a culture of reading and a love of books into young children may be the best method of proactively addressing the problems of reading acquisition. Teachers, and more especially parents, should be made aware of the important role they have to play in this regard.

#### 5.4 Summary

The acquisition of reading skills is affected by the level of language development in the child. Metalinguistic awareness and concept development with regard to the printed word are thought to be key factors when the reading process is begun in grade one. The results of this study were generally supported by earlier research. The subjects had little understanding of reading as a meaning-gathering process, and only about two-fifths were aware of the content of books. The development of very basic concepts about print showed nearly half the sample were very unsure as to how to operate as readers. Task mediation was important to success in items concerned with defining sentence boundaries and isolating smaller language units. But there was a fair amount of confusion with regard to instructional terms.

Achievement levels at the end of grade one showed < 30% of the subjects had performed poorly on the MAIS and the CAP test initially, but only 8% failed to achieve sufficiently well for easy transition to grade two. A further 14% did poorly on the CAP test only, and another 14% on the MAIS only. Again, by the end of the year only 2% in each category failed to achieve satisfactorily contrary to expectations. It was therefore concluded that in this study the metalinguistic measures used were not highly predictive of

academic outcome at Grade One level.

Certain differences appeared when the group was subdivided according to language culture. The English-Indian group did very well on the CAP test while in contrast the English-Zulu group demonstrated problems. This may well be a situational factor as the latter group do not have a traditional culture of literacy to support the development of these concepts. In respect of the MAIS, differences were not so marked. So although the English-Zulu group were not as aware as the other two groups the mediational approach was undoubtedly beneficial. Achievement levels after one year in school showed the English-Eurocentric group to be better prepared for grade two than either the English-Zulu group, or the English-Indian group who were on a par.

Viewing the results from a slightly different perspective characteristics of first and second language learners were examined. The second language learners, comprising the English-Zulu group and children whose home language was Afrikaans, were also behind on both the CAP test and the MAIS, although once again mediation was reflected in fewer deficits with regard to the latter measurement.

However, major problems for English second language learners occurred in both spoken and written English. To a lesser extent their oral comprehension was somewhat deficient. On the positive side the more structured areas of tuition including word recognition, phonics, reading fluency and mathematics reflected much better performance on the part of those children whose home language differed from the medium of instruction. It was proposed that reading ability, particularly in second language learners could be seen in isolation from other language skills.

Metalinguistic awareness and concepts about print development have been shown to play a major role in the acquisition of

reading skills. Teaching children to become metalearners may well facilitate the reading process in grade one beginners providing that attention is also given to the total language experience. In conclusion important implications as well as limitations of the current study, and suggestions of future research will be discussed in Chapter 6.

## CHAPTER 6

### CONCLUSION

#### 6.1 Implications of Research

Research in the area of beginning reading reveals valuable information about what the disadvantaged beginning reader needs most to learn. Adams (1990) reports that evidence shows that these pupils must be assisted to develop their awareness regarding the phonemic composition of words, to acquire a sound knowledge of the letters of the alphabet, as well as the phonemic significance of each letter. She suggests that they also need to be exposed to a wide variety of literacy experiences. The more research findings reveal about the development of early reading abilities, the more possible it becomes to use this information to design effective pre-reading programmes.

Segmental awareness is of the utmost importance in reading acquisition (Alegria & Morais, 1991). It promotes understanding of the alphabetic code and awareness of phonemes, thereby assisting the decoding of words encountered for the first time. This enables the child to build an ever increasing vocabulary. Longitudinal data reported by Perfetti et al. (1987) discusses the "reciprocity hypothesis": reflective phonemic knowledge and reading competence develop in mutual support. This is not a denial of the causal role of phonemic awareness, but rather a suggestion that the causal connection is only half the picture. The other half is that reading advancement promotes increased reflective phonemic awareness, which in turn promotes further gain in reading.

The level of language development in school beginners impacts on early reading acquisition and by making children aware of language it is possible to improve their language performance. From the outset teachers should provide pupils with strategies for thinking

and checking as they are involved in the learning process. This supports Slabbert's (1992) proposal, regarding second language learners, that teachers should actively create a metalearning environment in which the pupils may achieve optimum benefit from instruction.

The preschool child is a free spirit who has used language, or who has refrained from doing so, according to whim. When he is faced with the formal education setting he is forced to adapt to criteria hitherto unknown to him. Clay (1979) describes early reading behaviour and language development. She sees three major directions in which language changes during the first six months at school:

- (i) there is an increasing ability in the child to understand speakers who speak differently from the 'people at home', and also an ability to make himself understood by teachers and peers who do not know his individual frame of reference;
- (ii) the child displays continuing development and increasing precision in the use of the sound system, the vocabulary, the sentence patterns and the rules for combining words and for making them agree, as well as an increasing richness in the way he puts his meanings into words;
- (iii) the pre-reader begins to acquire a feeling for the kinds of language that he can expect to find in books.

The first point is pertinent to first language speakers of English, but doubly so for those whose home language is not English as they are required to adapt to a 'foreign' language. It is often difficult to gauge how comprehensible events in the classroom are for the second language learner who has little to say for himself. Clay's second observation seems to apply more to native speakers of English than to

black pupils who may be suffering cultural shock as well as linguistic disadvantage. However, in spite of these obstacles they still apparently manage to make progress in the classroom. The third area of change involves what Clay describes as 'talking like a book'. Exposure to books in the early reading scheme, initiates the child into 'book language'. This is perhaps the easiest aspect of language for the second language learner to acquire, as this is usually a highly structured mediated activity.

Two kinds of language problems affect reading acquisition: a deficiency of knowledge regarding spoken language, and an inability to bring knowledge of spoken language to conscious awareness (Tunmer & Hoover, 1992). For beginning readers who are first language learners knowledge of spoken language is usually sufficiently well advanced that it does not contribute to difficulties in learning to read. In second language learners this could be a serious impediment to progress. However, research findings confirm that intuitive oral language knowledge is insufficient to acquire the skills necessary for fluent reading in first language learners. It follows that these problems are compounded for second language learners. Tunmer and Hoover (ibid) stress that in learning to read children must be able to bring their knowledge of the spoken language to bear upon the written (printed) language of books, which requires metalinguistic ability to reflect upon the structural features of oral language.

Taking into consideration the results of the current study the indications are that when working within a sociocultural framework the 'deficit hypothesis' is a reflection of the mediational process used by the researcher rather than what the children know independent of mediation. The strategies used to mediate the practice items relating to the recognition of sentence and word boundaries in the MAIS, are congruent with what Craig (1985) describes as commonly used

mediational strategies of Zulu mothers when teaching children unfamiliar tasks; these strategies include demonstration and practice. It appears reasonable to assume that such procedures are not confined to Zulu mothers, parents in general are likely to mediate activities in this manner. The deliberate and restricted structuring of these tasks by the researcher was contrary to the approach of Dreher & Zenge (1990) who suggested multiple response strategies, but in so doing they may have confused the children as to the task requirements. This points to important statements about children's knowledge of their world which need to be based on research procedures that are sensitive to the mediational tools most commonly used in the early socialisation process of children.

Kwarciak (1992) concludes that new theoretical developments and empirical evidence suggest that metalinguistic awareness should be treated as a cognitive pre-requisite for linguistic ability. This supports the idea of an early onset of metalinguistic awareness and justifies the importance of data on the earliest reflections on language. Further, there are probably two types of metalinguistic awareness: explicit awareness which operates only when activated by the system, and implicit awareness which is present almost constantly to keep the system going, because of gaps in information. This conclusion is consistent with restricted cognitive access to language because children exhibit very little knowledge about phonological and syntactic features of their utterances until they receive formal tuition at school. That teachers adopt a more holistic approach to language is an important implication borne out by the findings of this study. Language teaching cannot be reduced to a set of subskills that can be nearly compartmentalised. Instead overall enrichment, including giving attention to the spoken aspects of English will be of benefit, especially in the socioculturally diverse South African classroom of today.

Having reached the forementioned conclusions on the basis of the results of this study it is necessary to turn our attention to the limitations of the study here reported. In doing so consideration will also be given to the difficulties of research of this kind with young children. Conclusions drawn about the learning process of children must always be viewed within the context of difficulties experienced in the research process.

## **6.2 Limitations of Research**

In considering the limitations of the present study cognizance must be taken of the criticisms levelled at interview research. Hypothetical questioning and probing of general processes are only two of the criticisms directed at metacognitive knowledge measurements (Garner, 1987). By using interview techniques with school beginners it is necessary to be aware of the disadvantages they may face. Cognitive processing in the five- or six-year-old child is likely to be too immature for them to deliberate on hypothetical events. Alternatively, implicit metalinguistic awareness referred to by Kwarciak (1992) may mean, not that children do not know something, but that they cannot express it. Or again, this may tie in with limited language ability, especially in the case of the second language learner. These factors may lead to underestimation of ability based on children's limited response patterns. Misinterpretations of question or answer could be due to differences in language usage by interviewer and interviewee, with the former giving adult meanings to responses, or the child misunderstanding what was required. Differences are bound to occur in groups that are non-English dominant, or in English dominant groups with divergent sociocultural backgrounds. As children lack theories of cognition, how is it possible to probe cognitive events? Yussen, Matthew & Hiebert (1982) criticized investigative studies of knowledge about reading. When



children were asked, "What is reading?" or "If someone did not know how to read what would you tell him?", they frequently responded that they did not know. Yussen et al. suggest children may have been uncertain about what aspect of reading they were expected to discuss, or else they may have responded by reference to specific classroom practice. The current research supports this point quite clearly. When the children were questioned about what one does when one reads, they made comments like: "Get your book"; "Sit still"; "Be quiet"; "Concentrate"; or even, "Put your glasses on". Yussen et al. describe this as children being "formal definers" of things. They rely on specific events of importance to them for their interview responses.

More specifically a criticism which may be made of this study is the lack of a formal method of controlling for any initial reading ability which may have been present in members of the sample. Observation of the children whilst they were engaged in the CAP test did not reveal any overt reading ability. Some of the subjects attempted unsuccessfully to replicate what the researcher was reading, but they were told that it was unnecessary for them to do this. They were just required to follow and assist the researcher as she read the story to them. Tunmer (1991) stresses the importance of checking if the child can already read when engaged in predictive studies because the process of learning to read may produce spin off skills that greatly facilitate children's performance on phonological awareness tasks. Adams (1990) has a further comment to make: while assessments should discount any contributions of formal reading instruction, they do not negate the contributions of beginning reading that occurred outside school. Such informal exposure, practice and instruction in reading, may be a significant factor in their development of critical pre-reading skills. However, prediction was only a secondary aim of this study, the main purpose was to describe where these beginners were in respect of metalinguistic awareness and concepts about print.

The findings of this study revealed that more children who had initial problems in the area of metalinguistic ability, subsequently reflected satisfactory achievement after one year of tuition, than those who remained underachievers. Tunmer, Herriman & Nesdale (1988) showed that decentration ability in preliterate children was more strongly correlated with overall metalinguistic ability at the beginning and end of first grade, than verbal intelligence, letter-name knowledge, or print awareness. What is important is that preliterate children with low levels of phonological awareness at school entry but above average decentration ability, showed significantly greater improvement during the school year than children with similarly low levels of phonological awareness, but with below average levels of decentration ability at school entry. So children's ability to acquire metalinguistic skills depends in part on their level of operativity. All this suggests that the current study was limited in that it did not include any assessment of subjects' operativity. This may have helped to identify those children who were developmentally delayed, and differentiated those who were still underachieving at the end of their grade one year.

Finally, as Dreher & Zenge (1990) point out the MAIS does not assess all areas of metalinguistic awareness. The three areas selected, the understanding of reading as a meaning-gathering process; segmenting sentences, words and letters; defining or giving evidence of understanding vocabulary used in reading instruction; all reflect understandings that the instructional programme is likely to assume the pupils already have acquired. It was on this basis that certain aspects of metalinguistic awareness were singled out. Sociocultural diversity amongst subjects may require other aspects to be considered. For example Tunmer, Herriman & Nesdale (1988) tried to avoid inaccurate estimates of phonological awareness by devising a test comprising nondigraph, nonword syllables which the children were

requested to segment aurally. Syntactic awareness was tested by having the children correct simple sentences that contained word order violations. They also made use of a pragmatic awareness test in which the children were required to detect intersentence inconsistencies. None of these metalinguistic abilities was included in this study.

Having discussed some of the more obvious shortcomings of the current study it is now appropriate to consider future research where it may be possible for the limitations outlined above to be addressed.

### 6.3 Indications for Future Research

Accepting that the use of interview techniques with young children may be susceptible to erroneous conclusions being drawn, this method is, nevertheless, a useful tool as it affords the researcher an opportunity of observing subjects and thereby gaining valuable insights about the learning process. In employing interviews to gather data on young children researchers should be aware of the pitfalls. Yussen, Matthews & Hiebert (1982) offer a research alternative which they consider sensitive to young children's cognitive and linguistic abilities. Instead of asking them general questions about general events, using reading as an example, they suggest providing vignettes about children reading, emphasising a particular aspect of the process, and then asking how significant this activity is to reading. Garner (1987) believes interview data to be highly informative, but it should be structured to reduce confounding of results. She offers the following suggestions for collecting interview data:

- (i) avoid asking questions about processes that are engaged in automatically;
- (ii) reduce the interval between processing and reporting;
- (iii) use multiple measures that do not share the same

- sources of error (interview questions and performance measures) to access knowledge and to identify use of strategies. The latter can corroborate (or otherwise) data from the former;
- (iv) avoid experimenter bias by using undirected probes;
  - (v) reduce verbalisation demands;
  - (vi) avoid hypothetical scenarios and very general questions;
  - (vii) assess interrater agreement in reducing verbal responses to themes of interest;
  - (viii) assess the consistency of interview responses over time.

It is desirable to steer clear of questions which leave the subject confused about how to answer appropriately. The spoken language level of the child, as well as language differences, should be taken into account. Particular care should be exercised when interviewer and interviewee assessments involve cross-cultural dyads, or subjects who are second language learners. It should be remembered that traditional western type education has patterns and norms which may differ from the traditional cultural patterns and norms of the subject. In spite of the problems which may be encountered it is difficult to understand why there is such a dearth of metalinguistic awareness research involving young children in South Africa. Elsewhere in the world a considerable amount of research has been generated on this undeniably important aspect of beginning reading.

Although straight replication of this study would be of interest, there would be more value in incorporating certain checks and balances that were outlined in the previous section of this chapter. In the first instance results could be made more meaningful if they included a measure that controls for reading ability amongst beginning readers. A short, simple test could be devised along the lines suggested by Clay (1985) using the most frequently occurring words in whatever basic reading texts are being used. This type of

test is unlike a standardised word recognition test as it does not give a reading age, nor does it discriminate between better readers after a period of instruction. As an additional check another measure could be devised, possibly in the form of a questionnaire, to gain information regarding incidental, informal literacy experiences the child has been exposed to at home or in a preschool facility.

Future research could also include additional aspects of metalinguistic awareness besides those described in this study, along the lines of the Tunmer, Herriman & Nesdale (1988) research already described in the previous section. Another important factor that came out of the Tunmer et al. research revolved around the Piagetian concept of operativity. Many preliterate children with low levels of phonological awareness at school entry but high levels of decentration ability should do reasonably well in learning to read, even though their preliterate level of phonological awareness might suggest otherwise. Assessment may be enhanced by including a test of operativity such as the one developed by Arlin (1981) and refined in the Tunmer et al. (1988) study. It would then be possible to re-affirm their findings that children who demonstrated low metalinguistic awareness but high decentration ability learn to read satisfactorily. Their results suggest that operativity plays a more important role in the development of metalinguistic skills than does verbal intelligence. They argue that operativity and metalinguistic tasks require higher level metacognitive operations such as decentering and control processing.

It appears that reading novices, whatever their age, have some metacognitive deficiencies in common. These deficiencies are located in both the declarative knowledge and the procedural knowledge categories. Therefore in designing interview studies cognizance should be taken of these aspects. In seeking to assess the declarative knowledge of the child interview questions will probe what literacy

concepts are in the child's repertoire. Whereas procedural knowledge will be ascertained by allowing the child to demonstrate that he knows how a literacy task should be tackled. A third category, that of conditional knowledge, may also be included, because here the child can show when (or why) certain strategies should be employed in the successful completion of literacy tasks.

Finally, the importance of longitudinal studies with regard to metalinguistic awareness cannot be emphasized enough. Findings that may be predictive should be followed up thoroughly, by monitoring the progress of subjects as the reading process develops, over a period of three years or longer. Reading comprehension's relationship to metalinguistic awareness needs to be investigated, as it develops after initial reading skills have been acquired. Garner & Reis (1981) observe "younger children and poorer readers are unlikely to demonstrate that they notice major blocks to text understanding. They seem not to realize when they do not understand" (p. 571).

Francis (1994) cautions that psychological research into literacy is directed towards problems in psychology rather than problems in education. That which reduces literacy to a set of skills rather than a complex technological achievement with personal and social significance may not have direct application to classroom practice. Researchers in the field need to be aware of the importance of applicability when reporting results to teachers. In the final analysis it is teaching practice that counts. So perhaps more attention should be paid to the outcome of teaching metalinguistic awareness to beginning readers and the effect this has on the reading process. Research should be undertaken across curricula to make curriculum contexts of practices explicit. The aim should be to identify interpretable, reliable, and ecologically valid measures over an adequate domain (Francis, 1994).

## 6.4 Summary

The development of oral language proficiency appears to be a key factor in the beginning reading process. Children need to be encouraged to express themselves especially if they are second language learners. The subjects' performance in this investigation indicated that segmental awareness of sentences and words can be mediated relatively easily with five- and six-year olds. From this we may infer that the segmentation of syllables, onsets and rimes, and phonemes could also be facilitated in a similar manner. However, the question arises of whether or not it is feasible to teach thinking to grade one beginners; to enable them to become metalearners right from the start, as children apparently continue to learn in spite of what is taught. Teachers hardly have the time for additional teaching. Yet reading acquisition skills, such as word recognition, phonics and reading fluency, which were highly structured and mediated for the children in this study, seemed to give second language learners an almost equal advantage, in comparison with their first language counterparts. On the other hand spoken language and oral comprehension which were not strongly mediated reflected far more deficit amongst second language learners. Assessing metalinguistic awareness would assist teachers in making it possible for appropriate input to be provided according to the needs of the child. On these grounds certain curriculum changes may be justified.

When school beginners are the subjects of research it is important to be aware of the disadvantages, as well as the advantages, of using interviews in data collection. It is also necessary to take into account language limitations that may be reflected in the children's responses because young children tend to be 'formal definers' of phenomena. This type of problem will obviously be compounded amongst second

language learners. Early reading research should also take into account any informal reading acquisition and preliteracy experiences the children may have acquired before entering the formal education milieu. Finally, research has confirmed that the child's level of operativity impinges on the development of metalinguistic awareness. Higher levels of operativity at school entry augur well for reading acquisition, and it is likely to compensate for apparent lack of metalinguistic awareness when the reading process is begun.

The structured interview approach is a viable option for future research with young children provided it is carefully designed with the specific characteristics and behaviour of the young child in mind. Reading research needs to include a measure to control for preschool reading ability and literacy experiences. Relatively little is known about second language learners in the South African context, especially with regard to the role of metalinguistic awareness in the reading acquisition process. In future research it would be valuable to widen the scope of metalinguistic awareness assessment and concepts about print development to include the child's knowledge of metacognition with regard to declarative, procedural and conditional knowledge awareness. An operativity assessment would also be useful in predicting reading acquisition in those children whose metalinguistic ability appeared to fall short, but who would, in all probability catch up by the end of grade one. Longitudinal studies would help to clarify all these aspects of the reading acquisition process. Finally, stringent applicability criteria needs to be applied to educational research. In the case of the reading acquisition process, to reiterate Francis (1994, p. 43): it is not just a set of skills but rather, reading ability should be seen as "a complex technological achievement of personal and social significance" in the socioculturally diverse classroom situation.



### 6.5 Quo Vadis?

This study has measured a set of skills related to the development of certain aspects of metalinguistic awareness and some basic concepts about print. In spite of its limitations it is hoped that the findings will, at least to some extent, meet the applicability criteria mentioned by Francis (1994). Although the main aim of the study was to describe development in a socioculturally diverse group of school beginners, a secondary aim was to determine what the beginner reader needs most to learn; his strengths and weaknesses, and how to assess these quickly and effectively. If a simple non-invasive assessment procedure could be defined, it would make it possible to establish a baseline for the commencement of reading instruction.

However, opinions differ as to whether or not an intensive programme of training in metalinguistic awareness should be provided before formal reading instruction is undertaken. Flavell (1979) warns that cognitive monitoring used in excess and non-selectively could do more harm than good, creating a pupil paralysed by incessant critical evaluation of his own judgements and decisions. On the positive side the benefits of training are such that in the beginning stages of learning to read, metalinguistic awareness helps children to discover that print maps onto certain structural features of spoken language, and that there are grapheme-phoneme correspondences. Also the tasks of blending and oral phonemic segmentation were singled out by Lewkowicz (1980) as deserving inclusion in reading-readiness programmes. Further, Vellutino & Scanlon (1987) provide clear-cut and strong evidence that training in phonemic segmentation has a salutary effect on the acquisition of skill in word identification, for poor as well as for normal readers. Similarly, some minimal level of phonological awareness appears to be necessary for children to profit from letter-name knowledge in the acquisition of phonological recoding

(Tunmer, Herriman & Nesdale, 1988). While Torgeson, Wagner & Rashotte (1994) point out the potential impact of intensive training in phonological awareness coupled with systematic instruction in word-level reading skills as a potential method to reduce the incidence of reading disabilities among young children.

Cognitive aspects were stressed by Myers & Paris (1978) who found that beginning readers have a limited understanding of reading as a cognitive activity, and who could therefore, benefit from instruction regarding the means, goals and parameters of proficient reading. Jacobs & Paris (1987) too, report that it is clearly indicated that children's awareness and their use of effective strategies for reading can be promoted by instruction. Hakes (1982) concludes that young children display examples of spontaneous (unconscious) metalinguistic awareness, but that older children can, upon request, use deliberate (conscious) reflection with regard to the property of an utterance, and thus act as linguistic analysts. This raises the question of whether it would not be advantageous to hasten the development of this ability by direct intervention, by training metalinguistic awareness to school beginners. Kwarciak (1992) draws attention to the most recent theoretical developments and empirical data that make it clear that metalinguistic awareness is a cognitive prerequisite for linguistic ability and so it must emerge with the child's first words.

Adding a further dimension Kemper & Vernooy (1993) suggest that even though cognitive factors are highly influential in the development of metalinguistic awareness, social interaction may be of equal importance. The 5- to 7-years shift of middle childhood represents a critical developmental stage, and pragmatic and linguistic responses that occur during this period could possibly help to reconcile various psychological and linguistic theories.

That the acquisition of skill in reading is of paramount importance for children entering first grade is the basic premise upon which this study rests. The absence of early establishment of skills can initiate a causal chain of escalating negative side effects - the so called "Matthew effects" discussed by Stanovich (1986): unrewarding early reading experiences lead to less motivation and involvement in reading activities which is the beginning of a downward spiral. In the South African setting programmes must be implemented to accommodate diversity. Pupils may have a common home language and yet have widely differing cultural backgrounds. Alternatively, pupils may be second language learners because their parents see English as the language of power. These pupils' problems are compounded because, apart from cultural differences, they also lack language exposure in the medium of instruction. It would also be of value to explore how the method of instruction impacts on second language learning and to what degree understanding is achieved.

The long term implications of the multiple factors that affect the reading acquisition process need to be further explored in longitudinal research to determine the role of metalinguistic awareness and the development of concepts about print in respect of academic achievement and reading comprehension ability at a later stage in the child's school career.

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The above list is not inclusive. It was compiled during the literature review for this study and comprises references from both primary and secondary sources.



**APPENDIX 2**  
**Concepts About Print Test (CAP)**  
**Abridged Version**

**Equipment:** First Grade Reader. Alphabet Sheet. Scoring Sheet.

**Note:** Instructions and notes appear in parentheses.

**Begin:** I am going to read you this story but I want you to help me:

(Pass book, spine towards the child.)

1. Show me the front of this book.

(Open book.)

2. I'll read the story. You help me.

Show me where I must read.

Where do I begin to read?

(Child should indicate print.)

3. Show me where to start.

(Child should indicate first word of first sentence.)

4. Which way do I go?

(Left to right across line of print.)

5. Where do I go after that?

(Return sweep to subsequent line.)

\*(Score items 3-5 if all items are demonstrated in a single response.)

6. Point to it while I read it.

(Read slowly but fluently - exact matching is required. If child did not appear to understand instruction a demonstration was given but then child had to show he could point word-for-word without assistance.)

7. Show me the first part of story.

(Beginning of book/where story was begun.)

Now show me the last part.

(End of book/where story was stopped.)

8. (Invert book.) Show me the bottom of the picture.

9. Where do I begin?

Which way do I go?

Where do I go after that?

(Child must demonstrate correct direction with inverted print.)

(Questions 8 and 9 should be credited if child first turns book to correct orientation and then indicates correctly.)

10. (Alphabet sheet.)

Find a little letter like this. Its called B or /b/. (Point to capital B. Child must indicate lower case b.)

Now find one like this. (Repeat procedure for S, T, M and H.)

Score on point for each correct answer. Question 7 requires both responses to be correct to score one point. Question 9 requires complete directionality movement to be demonstrated to gain one point. Question 10 requires at least three correct responses, from the five letters indicated, to score one point.

Maximum points = 10.

**CONCEPTS ABOUT PRINT**

**Scoring Sheet**

Name:

Class:

School:

Age:

Date:

Time:

SCORE

1. Front of book	_____
2. Print tells story	_____
3. Where to start	_____
4. Which way to go	_____
5. Which direction after that	_____
6. Word pointing	_____
7. First/last      Left page before right page	_____
8. Inverted picture	_____
9. Inverted print/directionality	_____
10. Alphabet: Bb Ss Tt Mm Hh	_____
Total	_____

**Comments**

A	F	K	P	W	Z
B	H	O	J	U	
C	Y	L	Q	M	
D	N	S	X	I	
E	G	R	V	T	
a	f	k	p	w	z
b	h	o	j	u	a
c	y	l	q	m	
d	n	s	x	i	
e	g	r	v	t	g

### APPENDIX 3

#### Metalinguistic Awareness Interview Schedule (MAIS)

Equipment: 4 Dinky cars (red, blue, yellow and green).

1 Flashcard with 1 cm letters: "I have four cars."

Scoring sheet

Note: In a few instances words in the test have been substituted to make the text more user friendly in the South African context. For example, names indicated by dotted lines: either the child's own name, or a Zulu name would be used. Only the items preceded a number are used to compile the scores on metalinguistic awareness. Instructions and notes appear in parentheses, as do those portions of Items 1, 4 and 18, as these are "warm-up" questions, not counted in the scoring.

The questions should be repeated or modified in order to be sure the child understands them. Items 1 and 2, for example include variants of the same question; the most appropriate wording will depend on whether the child reports that he can read. Similarly, Item 3 offers three variations on the same question; interviewers may need to use one or more of the variations. Additional probes may be introduced as required.

## INTERVIEW

(Questions in the first section aim at determining the child's concept of the purposes and process of reading. Does the child understand reading as a meaning-gathering process?)

1. (Can you read? Who do you know who can read?) What do we do when we read? What will you do when you learn to read?
2. Do you want to learn to read? Why? Do you want to learn to read better?
3. What is in a book? Why do we have books? What can you find in a book?

(The next section aims to determine whether the child can aurally distinguish sentences.)

4. (Did you ever hear the word sentence? Has anyone/your teacher ever talked to you about a sentence?)  
What is a sentence?

(Regardless of the answer, tell the child you are going to say some sentences for him. The conversation should go something like this and serves to mediate the following segmentation tasks.)

I am going to say a sentence for you.

Here it is: I HAVE FOUR CARS.

Here is another sentence: ONE CAR IS BLUE.

Here is another sentence: THE CARS ARE DIFFERENT COLOURS.

Now I am going to say all these sentences together. I will move a car each time I say a sentence. (Move a car at the end of each sentence to demonstrate what is required.)

Now you move the cars as I say sentences. (Assist child if necessary.)

Now I am going to say three more sentences. Listen carefully and move a car each time I say a sentence.

Here are the sentences: I LIKE YOUR SCHOOL. IT IS A VERY NICE SCHOOL. THE BOYS AND GIRLS ARE HAPPY.

(Make sure the child understands the instructions before proceeding to the unassisted items.)

I am going to say some more sentences. You must move the cars to show me how many sentences I say. Sometimes I will say just on sentence, sometimes two, sometimes three, and maybe four.

(Read the numbered sentences below and record the number of sentences the child has indicated.)

5. Today is a \_ \_ \_ \_ \_ day.
6. I like hamburgers. I do not like pizza.
7. On Saturday I am going for a braai at the beach.
8. \_ \_ \_ \_ \_'s mother drives the school bus. She takes children to school. She likes to drive the bus.
9. \_ \_ \_ \_ \_'s father is a good cook. He likes to bake pies. He will make an apple pie. \_ \_ \_ \_ \_ likes apple pies.

(The next section determines whether the child can aurally distinguish words within a sentence. The conversation should proceed as follows:)

A sentence is made up of words. Do you know what words are? I am going to say a sentence for you: BABIES CRY. There are two words in this sentence. Listen: BABIES (Move car) CRY (Move another car). There are two words. Listen again. (Repeat procedure and then allow child to practise.)

Now I am going to say some more sentences for you. You must move a car for each WORD you hear. You may say the sentence after me if you like. (Make sure the child understands and then proceed:)

10. Mary yelled.
11. Jimmy can run.
12. \_ \_ \_ \_ \_ skates well.
13. \_ \_ \_ \_ \_ sings.
14. Johnny draws pretty pictures.

(The final section contains some general linguistic questions and visual segmentation tasks for words and letters.)

Here are a few more questions:

15. Do you know your ABC? Do you know your alphabet?
16. How many words are there in this sentence? (Display card "I HAVE FOUR CARS" and read it aloud to the child.)

(At this point the child is requested to write his name. Assistance is given if necessary. He is then asked to count the number of letters in his name to mediate the task in question 17.)

17. How many LETTERS are there in this sentence?
18. (Does your teacher ever talk to you about sounds?) What is sound?
19. Do you speak a language?
20. What is the name of the language you speak? What is a language? Do you know the names of any other languages?

---

Score one point for each acceptable response. In question 4 the child may give an explanation or an example to be credited with one point. Questions 15, 18, 19 and 20 may be similarly scored.



**METALINGUISTIC AWARENESS INTERVIEW SCHEDULE****SCORING SHEET**

Name:

Class:

School:

Age:

Date:

Time:

SCORE

**Section 1**

1. What do we do when we read? \_\_\_\_\_
2. Do you want to learn to read? \_\_\_\_\_
3. What is in a book? \_\_\_\_\_

**Section 2**

4. What is a sentence? \_\_\_\_\_
5. Today is a \_ \_ \_ \_ day. \_\_\_\_\_
6. I like hamburgers. I do not like pizza. \_\_\_\_\_
7. On Saturday I am going for a braai at the beach. \_\_\_\_\_
8. \_ \_ \_ \_ \_ 's mother drives the school bus.  
She takes the children to school. She likes to drive the bus. \_\_\_\_\_
9. \_ \_ \_ \_ \_ 's father is a good cook. He likes to bake pies. He will make an apple pie. \_\_\_\_\_  
\_ \_ \_ \_ \_ likes apple pies.

**Section 3**

10. Mary yelled. \_\_\_\_\_
11. Jimmy can run. \_\_\_\_\_
12. \_ \_ \_ \_ \_ skates well. \_\_\_\_\_
13. \_ \_ \_ \_ \_ sings. \_\_\_\_\_
14. Johnny draws pretty pictures. \_\_\_\_\_

**Section 4**

15. Do you know your ABC? \_\_\_\_\_
16. How many words are there in this sentence? \_\_\_\_\_
17. How many letters are there on the card? \_\_\_\_\_
18. What is a sound? \_\_\_\_\_
19. Do you speak a language? \_\_\_\_\_
20. What is a language? \_\_\_\_\_

Total (20) \_\_\_\_\_

## OBSERVATIONAL DATA

### A. Behaviour During Testing:

### B. Overall Observations:

Hand dominance

Following instructions

Task execution

Attention span

Activity level

## APPENDIX 4

### OBSERVATIONAL DATA

#### A Behaviour During Testing

1. Quiet	Talkative
2. Shy	Confident
3. Passive	Responsive
4. Sad	Happy
5. Lethargic	Motivated
6. Withdrawn	Spontaneous
7. Hesitant	Impulsive
8. Immature	Mature
9. Confused	Competent
10. Distractible	Sustains concentration

#### B Overall Observations

	R	L	NE
11. Hand dominance			
12. Following instructions	Good	Average	Poor
13. Task execution	Good	Average	Poor
14. Attention span	High	Normal	Low
15. Activity level	High	Normal	Low

Only the characteristics that were applicable to any particular individual child (Items 1-10) were noted on the MAIS scoring sheet, but each child was categorised for each item on the overall observations (Items 11-15).

#### Observational Data: Results and Discussion

##### 1. Whole Group

Analysis of the data revealed that the most common behaviours during testing to be demonstrated by the group as a whole were motivation (53%), responsiveness (47%), confusion (34%) and hesitancy (33%). Least common were lethargy (no subjects), maturity (3%), sadness (6%) and being withdrawn (6%). With regard to the overall observations of the group as a whole +/- 95% were righthanded and displayed normal

activity levels. Two-thirds of the subjects were average/normal with regard to task execution and attention span. Although >60% were average in respect of following instruction there were >20% who were poor in this area. Appendix 4(a) and Appendix 4(b) include all the observational data for the whole sample.

**Appendix Table 4(a) Behaviour during testing (N = 87)**

Characteristic	Percentage Demonstrated	Characteristic	Percentage Demonstrated
1. Quiet	18.39	Talkative	17.24
2. Shy	8.05	Confident	22.99
3. Passive	9.20	Responsive	47.13
4. Sad	5.75	Happy	26.44
5. Lethargic	Nil	Motivated	52.87
6. Withdrawn	5.75	Spontaneous	11.49
7. Hesitant	33.33	Impulsive	8.03
8. Immature	21.84	Mature	3.45
9. Confused	34.84	Competent	16.09
10. Distractible	13.79	Sustained Concentration	18.39

**Appendix Table 4(b) Overall Observations (N = 87)**

	Right	Left	Not Established
Handedness	95.4%	4.6%	Nil
	Good	Average	Poor
Following instructions	17.24%	62.07%	20.69%
Task executions	17.24%	66.67%	16.09%
	High	Normal	Low
Attention span	21.84%	67.82%	10.34%
Activity level	1.15%	94.25%	4.60%

## 2. Language Culture Groups

Some interesting similarities and differences emerged amongst the three language cultures of the sample:

Motivation was high for Indian children (69%) and nearly as high for Zulu children (66%), but the English-Eurocentric group did not display this characteristic so readily (38%).

Responsiveness showed a similar pattern where more than half the Indian and Zulu children displayed the characteristic, with 38% of English-Eurocentric children doing so.

Hesitancy occurred in a number of children in each group but it was more pronounced in the English-Indian and English-Zulu language culture (46% and 47% respectively); with the English-Eurocentric group reflecting 19%.

Immaturity was another common feature, although it was far more pronounced in the English-Indian group (46%); the English-Eurocentric and English-Zulu groups demonstrated this behaviour at 19% and 16% respectively.

Confidence was much more apparent amongst the Indian children (38%) followed by the English-Eurocentric (24%) and the English-Zulu (16%).

Confusion was manifested more by the Zulu children (47%) followed by the Eurocentric group (31%).

Happiness appeared in 33% of English-Eurocentric children and 25% of the Zulu children.

The English-Eurocentric group was decidedly more talkative and spontaneous than the other groups. The English-Zulu children were the most distractible. Noticeable characteristics amongst the English-Indian children were concentration, competence, passivity and behaving quietly.

The subjects' task-taking behaviours are set out in Appendix Table 4(c).

**Appendix Table 4(c) Language Culture and Subjects' Task-  
Taking Behaviour**

Bimodal Behaviours	English- Eurocentric	English-Indian	English-Zulu
1. Quiet - Talkative	11.9% 26.19%	38.46% 7.7%	18.75% 9.38%
2. Shy - Confident	4.76% 23.8%	7.7% 38.46%	12.5% 15.63%
3. Passive - Responsive	4.76% 39.1%	23.08% 53.85%	9.38% 56.25%
4. Sad - Happy	7.14% 33.33%	15.38% 7.7%	Nil 25%
5. Lethargic - Motivated	Nil 38.1%	Nil 69.23%	Nil 65.65%
6. Withdrawn - Spontaneous	9.52% 19.05%	Nil 7.7%	3.13% 3.13%
7. Hesitant - Impulsive	19.05% 11.9%	46.15% Nil	46.88% 6.25%
8. Immature - Mature	19.05% 2.38%	46.15% 15.38%	15.63% Nil
9. Confused - Competent	30.95% 16.67%	15.38% 38.46%	46.88% 6.25%
10. Distractible - Sustained Concentration	11.9% 14.29%	15.38% 46.15%	15.63% 12.5%
	N = 42	N = 13	N = 32

Overall observations revealed that none of the English-Zulu language culture group were left-handed, and even the youngest five-year-old in all three groups demonstrated established dominance. In the English-Eurocentric group following instructions and attention span were evenly distributed but task execution was positively skewed.

Conversely all three behaviours were positively skewed for the English-Indian group. In the English-Zulu group following instructions and task execution were negatively skewed with attention span more evenly distributed, although the normal category was relatively large. Finally, high activity only appeared in the English-Eurocentric group, low activity in the English-Indian group, and all the English-Zulu were rated normal with regard to activity level during their interviews. The overall observation for the different language culture groups will be found in Appendix Table 4 (d).

**Appendix Table 4(d) Language Culture and Overall Observations**

	English-Eurocentric	English-Indian	English-Zulu
Handedness: R	92.86%	92.31%	100%
L	17.14%	7.69%	Nil
N/E	Nil	Nil	Nil
Following Instructions Good	19.05%	38.46%	6.25%
Average	61.9%	38.46%	71.88%
Poor	19.05%	23.08%	21.87%
Task Execution Good	14.29%	61.54%	3.12%
Average	80.95%	23.08%	65.63%
Poor	4.76%	15.38%	31.25%
Attention Span Good	16.66%	69.23%	9.38%
Average	71.43%	30.77%	78.12%
Poor	11.91%	Nil	12.5%
Activity Level High	2.38%	Nil	Nil
Normal	97.62%	69.23%	100%
Low	Nil	30.77%	Nil
	N = 42	N = 13	N = 32

### 3. First and Second Language Learners

Motivation and responsiveness were the most common behaviours for both groups but these characteristics were much more pronounced amongst second language learners: 65% to 44% and 54% to 42% respectively.

However, second language learners were more confused and hesitant than their first language peers: 49% to 25% and 46% to 25% respectively.

Other characteristics amongst first language learners were immaturity, happiness, confidence, competence and sustained concentration. This group was also relatively talkative. Only two of these behaviours appeared in twenty percent or more of the second language learners, namely, happiness and confidence. A full comparison of the two groups' task-taking behaviour will be found in Appendix Table 4(e).



**Appendix Table 4(e) First and Second Language Learners Task-  
Taking Behaviour**

Bimodal Behaviour	1LL	2LL
1. Quiet - Talkative	19.23% 21.15%	17.14% 11.43%
2. Shy - Confident	5.77% 25.0%	11.43% 20.0%
3. Passive - Response	9.62% 42.31%	8.57% 54.29%
4. Sad - Happiness	9.62% 26.92%	Nil 25.71%
5. Lethargic - Motivated	Nil 44.23%	Nil 65.71%
6. Withdrawn - Motivated	7.69% 17.23%	2.86% 2.86%
7. Hesitant - Impulsive	25.0% 9.62%	45.71% 5.71%
8. Immature - Mature	26.92% 5.77%	14.29% Nil
9. Confused - Competent	25.0% 23.08%	48.57% 5.71
10. Distractible - Sustained Concentration	13.46% 23.08%	14.29% 11.43%

N = 42

N = 35

Overall observation relating to first language learners showed the ability to follow instructions to be fairly evenly distributed, but task execution and attention span were both positively skewed.

In the second language learners following instructions and task execution were negatively skewed with attention span more evenly distributed, but with a large normal group.

Activity level was normal for all members of this group whereas only 90% if the first language learners fell into the normal category. The full results of these observations are set out in Appendix Table 4(f).

**Appendix Table 4(f) First and Second Language Learners and Overall Observations**

		1LL	2LL
Handedness	R	94.23%	97.14%
	L	5.77%	2.86%
	N/E	Nil	Nil
Following Instructions	Good	25.0%	5.71%
	Average	55.77%	71.43%
	Poor	19.23%	22.86%
Task Execution	Good	25.0%	5.71%
	Average	67.31%	65.71%
	Poor	7.69%	28.57%
Attention Span	High	28.85%	11.43%
	Normal	63.46%	74.29%
	Low	7.69%	14.29%
Activity Level	High	1.92%	Nil
	Normal	90.38%	100%
	Low	7.69%	Nil

N = 52

N = 35



basic concepts and  
ability to complete  
simple + and -  
operations

OVERALL = Overall achievement  
and readiness for  
grade two.

- Code:
5. = Indicates an "advanced" level.  
The pupil displays a very  
high level of  
competence/motivation.
  4. = Indicates an "above average"  
level. The pupil is hard  
working and conscientious.
  3. = Indicates an "average" level.  
The pupil has reasonable  
skills and is progressing  
satisfactorily.
  2. = Indicates a "below average"  
level. The pupil's  
achievements and/or efforts  
are below standard.
  1. = Indicates a "weak" level. Lack  
of progress and/or effort.  
Seriously below the level  
required.

## APPENDIX 6

### Similarities and Differences Between the KwaZulu Natal Sample and the Mid-Atlantic County (US) Sample on the MAIS

The composite profiles of the two groups on the MAIS differed noticeably with many items giving widely divergent results. The first section dealing with the understanding of reading as a meaning-gathering process shows the Mid-Atlantic county children with nearly twice as many appropriate responses as those of the KwaZulu Natal group (41% and 22%). However, in the segmentation tasks the South African children outdid their United States counterparts quite convincingly:  
Aural segmentation of sentences: 84% to 66%

Aural segmentation of words: 76% to 56%

Visual segmentations of words and letters: 78% to 55%.

In the final section of the MAIS, relating to knowledge of instructional terms the KwaZulu Natal children did less well than the United States children on the alphabet and sound questions; they were roughly equally matched with regard to the concept of "sentence"; the South African children were better on the two final questions concerning language. For the five items concerned with instructional terms the KwaZulu Natal group had 46% appropriate answers and the United States group achieved 38% success rate.

Although this particular measure (MAIS) was virtually a replication of the Dreher & Zenge (1990) study, direct comparisons are not justifiable apart from the age, sex, ses, and preschool variables, and the fact that subjects were grade one beginner readers.

**Appendix Table 6(a) KwaZulu Natal and Mid-Atlantic County  
Comparisons**

	Age Range	Age Mean	Male	Female
US Oct. Gr. 1	5:9 - 7:2	6:1	32	33
KZN Jan. Gr. 1	5:4 - 7:5	6:2	45	42

Socioeconomic status is described as wide ranging in both groups. Most of the American children attended a preschool facility, as did all but a small percentage of their South African counterparts. The similarities end here.

The school population of the mid-Atlantic country system was predominantly white. A 6% black population meant that an average of only one or two black children would be in any one class group, and whether there were any in the final sample of 65 subjects was not mentioned. Sampling was random across ten schools, each providing ten pupils. Natural attrition was due to the reduced final number of subjects as this was a longitudinal study. In the KwaZulu Natal sample only two schools were involved. With a multicultural population: a little over 48% were white, nearly 37% were black and just on 15% were Indian.

The mean performance on the metalinguistic interview in the United States sample was 10.3, whereas the South African pupils achieved 12.6. The maximum total was 20 points. This discrepancy appears to be due to the better performance on the segmentation tasks by the KwaZulu Natal pupils. Combining the other MAIS components reflected a little more than 2% discrepancy between the two groups, whilst the segmentation sections reflected over 19% difference. The question arises as to why this should be the case. Two alternatives appear immediately apparent. Either it was insufficient sampling; ten schools as opposed to two schools, or, the tight

structuring and mediation given to the KwaZulu Natal children meant they could succeed in these tasks, as they were not given alternative choices of counting aloud or tapping on the desk instead of moving the toy cars in the aural segmentation tasks. The visual segmentation tasks were similarly tightly structured and mediated. Full comparison of the results will be found in Appendix Table 6(b).

**Appendix Table 6(b) MAIS Results Index of Item Difficulty**

MAIS Components	Items	KZN (N = 87)	M-AC (N = 65)
Purpose of reading/content of books	1	6.90%	23.10%
	2	19.54%	64.62%
	3	40.23%	35.38%
Aural segmentation of sentences	5	87.36%	89.23%
	6	82.76%	75.38%
	7	86.21%	53.85%
	8	77.01%	49.23%
	9	87.36%	61.54%
Aural segmentation of words	10	89.66%	61.54%
	11	68.97%	53.85%
	12	64.37%	58.46%
	13	83.90%	60.00%
	14	74.71%	44.65%
Visual segmentation of letters/words	16	83.90%	52.30%
	17	71.26%	56.92%
Terms used in reading instruction	4	20.69%	20.00%
	15	42.53%	63.08%
	18	31.03%	46.15%
	19	51.72%	41.54%
	20	82.76%	18.46%

KZN = KwaZulu Natal Sample

M-AC = Mid-Atlantic county Sample

## APPENDIX 7

### Additional Correlational Data for Cap with MAIS

Pearson Correlations:

CAP Items/Total with MAIS Items/Components/Total

#### CAP Item 3: Exact starting point of story

MAIS Variables	r	p
Aural segmentation of three sentences	.25	<.01
Aural segmentation of three words	.28	<.01
Aural segmentation of words component	.25	<.01
Total MAIS	.30	<.01

#### CAP Item 4: Reading proceeds L to R across line

MAIS Variables	r	p
Aural segmentation of two sentences	.26	<.01
Aural segmentation of words component	.25	<.01
Words used in reading instruction component	.26	<.01

#### CAP Item 6: Pointing word-for-word

MAIS Variables	r	p
Aural segmentation of two words	.25	<.01
Reading for meaning component	.27	<.01
Aural segmentation of words component	.26	<.01
Words used in reading instruction component	.26	<.01



**CAP Item 7: Concept: first/last**

MAIS Variables	r	p
Aural segmentation of three sentences	.31	< .01
Visual segmentation of letters	.31	< .01
Aural segmentation of words component	.31	< .01

**Cap Item 8: Inversion of picture**

MAIS Variables	r	p
Aural segmentation of three words (MAIS 10)	.31	< .01
Aural segmentation of three words (MAIS 13)	.26	< .01
Aural segmentation of four words	.31	< .01
Aural segmentation of words component	.31	< .01
Total MAIS	.31	< .01

**CAP Item 9: Inversion of print**

MAIS Variables	r	p
Aural segmentation of two words	.29	< .01
Knowledge of alphabet	.30	< .01
Concept of language	.27	< .01
Aural segmentation of words component	.30	< .01

**CAP Item 10: Alphabet matching**

MAIS Variables	r	p
Knowledge of alphabet	.28	< .01
Total MAIS	.28	< .01

**CAP Total**

<b>MAIS Variables</b>	<b>r</b>	<b>p</b>
<b>Aural segmentation of three sentences</b>	<b>.26</b>	<b>&lt; .01</b>
<b>Aural segmentation of two words</b>	<b>.32</b>	<b>&lt; .01</b>
<b>Aural segmentation of three words</b>	<b>.32</b>	<b>&lt; .01</b>
<b>Visual segmentation of words</b>	<b>.28</b>	<b>&lt; .01</b>
<b>Concept of language</b>	<b>.31</b>	<b>&lt; .01</b>
<b>Name(s) of language(s)</b>	<b>.27</b>	<b>&lt; .01</b>
<b>Reading for meaning component</b>	<b>.31</b>	<b>&lt; .01</b>
<b>Segmentation of sentences component</b>	<b>.28</b>	<b>&lt; .01</b>

In addition CAP Item 2: Print tells story was significantly correlated with MAIS Item 3: Content of books,  $r = .28$ ,  $p = < .01$ .

## **APPENDIX 8**

### **Additional Correlational Data for CAP and MAIS with Achievement**

**Pearson Correlations: CAP Items/Total Achievement**

#### **Cap Item 2: Print tells story**

Achievement Variables	r	p
Oral	.27	< .01
Word Recognition	.32	< .01
Fluency	.33	< .01
Overall	.25	< .01

#### **CAP Item 7: Concept: first/last**

Achievement Variables	r	p
Written	.32	< .01
Maths	.28	< .01

#### **CAP Item 8: Inversion of picture**

Achievement Variables	r	p
Written	.30	< .01
Oral Comprehension	.32	< .01

#### **CAP Item 10: Alphabet Matching**

Achievement Variables	r	p
Fluency	.27	< .01
Word Recognition	.30	< .01

**CAP Total**

Achievement Variables	r	p
Maths	.33	<.01
Overall	.31	<.01

In addition Cap Item 5: Return sweep to subsequent line of print correlated significantly with Oral:  $r = .25$ ,  $p = <.01$ , as did Cap Item 6: Pointing word-for-word with Written:  $r = .26$ ,  $p = <.01$  and CAP Item 9: Inversion of print with Fluency:  $r = .28$ ,  $p = <.01$ .

**Pearson Correlations:****Mais Items/Component/Total with Achievement****MAIS Item 3: Content of books**

Achievement Variables	r	p
Oral	.31	<.01
Written	.31	<.01

**MAIS Item 11: Aural segmentation of two words**

Achievement Variables	r	p
Written	.28	<.01
Oral Comprehension	.25	<.01

**MAIS Items 10/13: Aural segmentation of three words**

Achievement Variables	r	p
Fluency	.29	<.01
Oral	.30	<.01

Note: Item 13 correlated highly significantly  $p = <.001$ . See text.

**MAIS Item 14: Aural segmentation of four words**

Achievement Variables	r	p
Word Recognition	.29	< .01
Written	.33	< .01
Oral Comprehension	.26	< .01

**MAIS Item 16: Visual segmentation of words**

Achievement Variables	r	p
Oral Comprehension	.25	< .01
Maths	.25	< .01

**MAIS Item 17: Visual segmentation of letters**

Achievement Variables	r	p
Oral	.25	< .01
Word Recognition	.26	< .01
Phonics	.27	< .01
Written	.27	< .01
Oral Comprehension	.27	< .01

**MAIS Item 18: Concept of sound**

Achievement Variables	r	p
Fluency	.31	< .01
Oral Comprehension	.31	< .01
Maths	.29	< .01
Overall	.27	< .01

**MAIS Item 19: Concept of language**

Achievement Variables	r	p
Word Recognition	.32	< .01
Fluency	.30	< .01
Maths	.30	< .01
Overall	.29	< .01

**MAIS Item 20: Knowledge of language(s)**

Achievement Variables	r	p
Oral	.26	< .01
Word Recognition	.30	< .01
Fluency	.30	< .01
Phonics	.26	< .01
Oral Comprehension	.30	< .01

**MAIS Component: Segmentation of words**

Achievement Variables	r	p
Oral	.28	< .01
Fluency	.30	< .01
Phonics	.25	< .01
Written	.30	< .01

**MAIS Total**

Achievement Variables	r	p
Word Recognition	.30	< .01
Overall	.32	< .01

In addition MAIS Item 6: Aural segmentation of two sentences correlated significantly with Overall:  $r = .25$ ,  $p = <.01$ , and MAIS Item 15: Knowledge of the alphabet correlated significantly with Word Recognition:  $r = .29$ ,  $p = <.01$ .