THE PERSISTENCE OF LANGUAGE DISORDERS IN A GROUP OF DISADVANTAGED GRADE 3 LEARNERS

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ABSTRACT

A strong correlation between early language impairment and academic failure has been suggested by past research. This follow-up cohort study of 25 monolingual, disadvantaged grade 3 learners investigated whether the language impairments diagnosed in their preschool year were still evident after 3 years of school attendance, maturation and speech-language therapy. The results verified the persistence of preschool language impairments, which have been associated with poor reading and academic failure.

INTRODUCTION

The attainment of literacy and academic success is crucial for survival in a modern industrialised, knowledge-driven society. In South Africa today a large percentage of learners do not succeed academically and leave school without the necessary skills to ensure economic survival. The Western Cape Education Department (WCED) assessed the reading skills of 34 487 Grade 3 learners in 1, 093 schools in 2004 and found that only an average of 39.5% of learners passed the literacy test at Grade 3 level (WCED, 2005). Explanations for the poor performance vary from lack of resources, crowded classrooms, shortage of appropriately trained teachers and socio-economic factors to poor pre-literacy skills. One potential cause that has received less attention is the impact of poor entry level language skills.

Bilingualism, multilingualism and learners who are educated in languages other than their mother tongue have also been suggested as potential causes and are highly contentious issues in South Africa. In 1997 the government introduced the Language in Education policy based on non-discriminatory language use in the context of a bilingual or multilingual framework. The stated aims were to secure mother-tongue maintenance, to promote proficiency in a second language and to strive for optimal cognitive development (Heugh, 2002). The policy also recognised that the mother tongue, or the language used most proficiently at home, is the most appropriate language of learning. In reality the majority of learners in South Africa receive their education through the medium of a second language and lack of proficiency in the language of instruction poses major obstacles to education for both educators and learners (Uys, Van der Walt, Van den Berg & Botha, 2007).

In the face of the more investigated and therefore more evident language and learning problems experienced by second language learners, the language problems of learners who receive instruction in their mother tongue by educators who are proficient in the same language, may easily be overlooked. Speech-language therapists working in school environments often experience pressure from educators and parents to focus their intervention programmes on the language needs of second language learners.

This article aims firstly, to draw attention to the language problems of learners who are *not* second language learners but who are at risk for academic failure, because they come from disadvantaged backgrounds and lack the complex language and literate language skills needed for academic success. Secondly, it seeks to highlight the persistence of the language problems exhibited by these learners despite speech-language therapy intervention programmes and formal education.

There is a dearth of research in South Africa pertaining to the impact of the often "atypical" language skills of learners from lower socio-economic backgrounds and learners from different cultural groups on their academic progress. No large scale longitudinal studies have been done locally in the field of speech-language therapy to investigate how learners who enter school without the necessary emergent literacy and language skills cope with the academic curriculum. There is a lack of epidemiological data pertaining to the nature and extent of emergent literacy and language skills in different cultural groups at school entry. Data and information relevant to the South African context is needed to guide best practice for this domain and to inform all the role-players involved in service delivery to enable them to provide appropriate and focused intervention where necessary. Speech-language therapists are often the first professionals to encounter preschool children at risk for developing reading and learning problems, and should play a crucial role in early identification of these learners and their subsequent intervention programmes.

Evidence from several longitudinal studies in the United States of America showed that a large percentage of children who fail to learn do not display disordered language, but rather a global language delay, characterized by a lack of literate language skills (Catts, Fey, Tomblin & Zhang, 2002; Fazio, Naremore & Connell, 1996; Tomblin, Zhang, Buckweiler & O'Brien, 2003). These longitudinal studies have shown that poor language skills at school entry not only predict poor reading acquisition, but continue to negatively affect all aspects of academic learning. Learners who start school with delayed language never "catch up" and continue to fall even further behind (Sénéchal, LeFevre, Smith-Chant & Colton, 2001; Tomblin, et al., 2003). These children may not necessarily meet the diagnostic criteria for specific language impairment and parents and educators may not be concerned about their levels of language development. If they also resemble the majority of their peers regarding language skills, it is highly unlikely that they will be referred for speech-language therapy or any form of language remediation.

The relationship between lower socio-economic status (SES) and academic failure is well documented, but linguistic and literacy variables associated with SES should be considered against the background of cultural and linguist diversity in

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a multicultural society such as South Africa. Prinsloo and Stein (2004) argue that early language and literacy development should be investigated against the background of the social community, classroom and institution, and warn against skills-based models of early literacy where the focus is on individual within-child attributes associated with literacy acquisition. The differences in quality, quantity and style of child-directed speech, and exposure to literacy, associated with lower SES, may be the result of different values and social practises regarding language and early literacy exposure (Dollaghan et al., 1999; Fazio, et al., 1996). Children from lower SES backgrounds may grow up in environments that provide them with ample experience with language and functional literacy use in their social and cultural context, but fail to provide them with what is described by Kaderavek and Sulzby (2000) as the "written language register" (p. 35), or cognitive academic language proficiency (CALP). Literate language used in textbooks and classrooms is de-contextualized, abstract, syntactically more complex and has more formal vocabulary than oral language and is linked to a child's ability to construct meaning and to re-contextualize a previously experienced event (Westby, 2005).

Reading is a language-based skill requiring learners to use structural and conceptual linguistic knowledge to initially decode simple syntactical texts and later to extract meaning from complex and less familiar syntactical constructions in written texts (Sénéchal, et al., 2001). Knowledge of the syntactic rules governing the order and combination of words enable children to construct well-formed sentences and to comprehend complex literate language. International research indicates that there is a positive correlation between measures of syntax skills and reading performance. Poor readers demonstrate reduced sentence length, more syntactical errors, and problems understanding and using complex sentences (Westby, 2005).

Early identification and remediation of poor language skills in children at risk for academic failure in the pre-school years is crucial. Traditional diagnostic measures used by speech-language therapists are usually more focused on the identification of children with specific language impairments (SLI), i.e. disordered language. Socio-demographic variables, such as SES and culture may impact negatively on children's performance on norm-referenced and spontaneous language production measures, because of their different experiences with language. Lower test scores may be caused by environmental and physiological risk factors associated with lower SES, but may also reflect the cultural biases inherent in many standardised tests. There are only few standardized tests and assessment procedures that take into account the diversity and complexity of the experiential, cultural and socio-economic circumstances of South African learners. To overcome this problem, speech-language therapists employ informal qualitative assessment procedures, such as analysing language samples obtained through children's narratives to extract linguistic indicators that correlate with literacy failure.

Narratives can be described as a "form of discourse initiated and controlled by a person, organized in a predictive, cohesive, rule-governed way, and representing causal and temporal patterns of relating information" (Owens, 2004, p. 213). Botting (2002) considered narratives a valid way to investigate communicative competence and to distinguish between language impairments and normal language development. The ability to tell a story links oral language skills and literacy, because it requires children to plan and produce de-contextualized and cohesive narratives. Numerous studies have demonstrated the value of children's narratives to predict academic success

and reading skills (Botting, 2002; Liles, 1993; Kaderavek & Sulzby, 2000; Norbury & Bishop, 2003). Research in the United States of America has highlighted the structural differences in narratives produced by children from different cultures and socio-economic groups. No similar research has been done in South Africa, and the use of narratives for diagnostic purposes should be undertaken with caution.

Depending on the goals of the examiner, narratives can be analysed at macro- or micro-levels in several ways, such as narrative levels, high point analysis, story grammars and cohesive devices (Owens, 2004). This study focused on micro-level analysis of aspects of *productivity, lexical diversity* and *syntactic complexity,* which are linked to literate language and reading acquisition. Macro-analysis of schemas produced in narratives, usually story grammar schemas, provides information about skills mainly associated with reading comprehension. Macro-level analysis was not included in the results, because retelling a narrative does not require a person to generate and organize story schema content and is therefore not the best way to assess schema knowledge (Westby, 2005).

It is evident that, internationally, a strong correlation between early language impairment and academic failure has been indicated by past research. A high level of academic failure, particularly in the form of poor reading skills, is evident in South Africa. The present study was designed to investigate the effect of speech-language development programmes and formal academic training on a variety of linguistic variables in a group of monolingual disadvantaged preschool children. On the basis of past research from other countries, it was hypothesized that the children would still exhibit language delays. In addition to supplying preliminary data on the local situation, the results of this study are also important for South African speech-language therapists in evaluating the efficacy of their services and the impact of present academic and language intervention approaches.

METHODOLOGY

Aims

The main aim of the study was to assess the measure of persistence, if any, of receptive and expressive language disorders in a small sample of disadvantaged Afrikaans mother tongue Grade 3 learners, who were previously tested in preschool.
The specific aims were:
* To evaluate the learners' receptive vocabulary skills;
* To evaluate the learners' expressive language skills in story retell narratives, using measures of productivity, lexical diversity and syntactical complexity;
* To assess the development of the learners' language skills by comparing their present results with those gained three years earlier.

Participants

The present study population (n=25) formed part of a previous cross-sectional study investigating the precursors to literacy in a group of disadvantaged preschool children (n=43). The original study had defined disadvantaged children as coming from a community "deprived of some basic necessities of life, such as adequate housing, medical care or educational facilities" (The American heritage Dictionary of the English Language, 2000). The community consisted mainly of farm workers and was characterised by a high level of adult illiteracy and unemployment.

The original sample, consisting of 43 children who met

the selection criteria, was selected from three pre-primary Afrikaans medium classes in a small rural community in the Western Cape. The selection criteria specified that children had to be Afrikaans home language speakers, between the ages of 6 years 5 months and 6 years 9 months, and normally developing according to the class teachers. None of the children had been referred for speech-language therapy and none of the parents, caregivers or teachers considered any of the children to have impaired language. It must be noted that these children had the advantage of attending pre-primary classes, as opposed to the majority of their peers in Grade 1, who started formal schooling without any form of preschool education.

Results of the original study (Klop & Rumble, 2002) indicated below-average receptive language scores on the Afrikaanse Reseptiewe Woordeskattoets (ARW) (Buitendag, 1994) in the majority of the children that were assessed. Precursors to literacy, namely print awareness, phonemic awareness, rapid serial naming and literate language features, were also developmentally inappropriate and the majority of the children were considered by the researcher to be at risk for reading failure.

Of the original cohort of 43 children, only 25 children were still attending the same school at the time of the project in hand. The average age of learners was 9 years 4 months (SD 2.7). The follow-up cohort consisted of 11 boys and 14 girls. None of the children was identified by the Grade 3 teachers as specifically language impaired. Since school entry all the children had been enrolled for at least one year in a speech-language therapy development programme, as part of a university student training programme. The programme had been conducted in groups of six learners by student speech-language therapists supervised by clinical supervisors. The foci of the programme were phonemic awareness training and the improvement of language skills.

Procedures and materials

The first data collection took place in October at the end of their pre-primary year, just prior to the beginning of their Grade 1 year in the local primary school. The cohort was reassessed three years later at the end of Grade 3. Their language skills were measured again to determine the stability of the previously noted delayed language features. Prior to testing, informed written consent was obtained from the education department, school principals and the parents. Assent was obtained from the children taking part in the study. Participation was voluntary, and participants, teachers and parents were assured that confidentiality would be maintained and that their identities would be protected.

Learners in both cohorts were assessed by the same two qualified speech-language therapists using the same six linguistic variables to measure linguistic growth. A formal test was used to measure the participants' receptive vocabulary abilities. Data for the other five variables were obtained by transcribing and analysing story retell narratives elicited from the participants and audio taped.

A story retell procedure to elicit narratives was chosen as retold stories are considered easier than the construction of an original story and result in longer and more grammatically complete language samples (Liles, 1993; Schneider & Dubé, 2005). A story-retell format, in contrast to story generation, offers control over stimulus input, because all the subjects are presented with the same story and the retold narratives can therefore be compared over time and across subjects in a more valid and reliable way (Gazella & Stockman, 2003). To elicit a story retell narrative, a story (*Die Duif en die Mier,* Smallman and Nes-

tling, 1993), was told to the children with the aid of 8 laminated colour pictures from the original storybook. The text was adapted to include more complex syntactic structures, such as subordination and elaborated noun phrases. Another reason for the choice of a retell narrative procedure was the resemblance between this task and classroom activities. Teachers often expect children to display their understanding by retelling information that was previously presented to them (Fazio, Naremore & Connell, 1996).

Linguistic Variables

Receptive vocabulary

A formal test, the Afrikaanse Reseptiewe Woordeskattoets (ARW) (Buitendag, 1994) provided a standardized measure to assess receptive language skills. The ARW was developed and standardized in South Africa for use in Afrikaans speaking populations, but it is important to note that it was standardised on white Afrikaans speaking children in a specific geographic region. It is therefore possible that the test may be biased against dialectal variations associated with specific geographic regions and SES. Knowledge of word meanings is crucial for the comprehension of written language and vocabulary skills are associated with fluent reading in Grade 3 rather than reading acquisition. Research has also indicated a direct link between vocabulary and phonological awareness skills, which in turn are crucial for early reading acquisition (Sénéchal et al., 2001). The reciprocal relationship between reading and vocabulary development is well documented. Reading enhances vocabulary growth, while increased vocabulary, in turn, leads to more efficient reading and word recognition. Lower socioeconomic status has been found to be associated with poor vocabulary skills in preschool children (Dollaghan et al., 1999; Fazio, et al., 1996).

Productivity

This term refers to the amount of language produced in response to a task and can be used to distinguish between language impaired children and children with normal language development. The language of language impaired children often resembles that of younger children (Scott & Windsor, 2000). Two measures, total number of words (TNW) and total number of T-units, are often used to measure productivity.

Total number of words (TNW)

Language impaired children tend to produce fewer words than children with normal language development, because their narratives are in general shorter and less complex (Scott & Windsor, 2000). All the words in each narrative were counted as well as all additional morphemes, such as plural –s and –e, past tense ge-. Repetitions, hesitations, unintelligible utterances and comments, such as "ek weet nie", were excluded from the word count. Contracted forms e.g. hy't and compound words e.g. gougou were counted as single words. The TNW in the original narrative presented to the children was 288.

Number of T-units (T-units)

A T-unit comprises of a main clause with all its subordinate clauses and phrases, and is a more accurate reflection of syntactic complexity at utterance level than a sentence, because increased length of sentences does not always imply increased complexity (Nippold, 1998; Scott & Windsor, 2000). Each narrative was segmented into T-units, consisting of the main clause and all its subordinate clauses and phrases. The total number of T-units in the original narrative presented to the children was

31.
Number of different words (NDW)

Lexical diversity was measured by counting the number of different words (NDW) per narrative. NDW is strongly correlated with maturation and can be used to distinguish language impaired children from children with normal language at preschool level (Scott & Windsor, 2000). It also reflects a child's expressive vocabulary size and semantic proficiency (DeThorne, Johnson & Loeb, 2005). To control for differences in the length of the narratives NDW was calculated as a percentage of the TNW produced in each individual narrative to make comparisons between subjects and between narratives possible. The NDW in the original narrative was 133.

Syntactic complexity

Mean length of utterance (MLU)

MLU is strongly correlated with age and language development, and is an indicator of expressive syntactic complexity (DeThorne et al., 2005; Scott & Windsor, 2000). Children aged 60 months are expected to produce a MLU of 4.0 to 6.0 in a language sample and a MLU of 7.2- 10.4 is expected at the age of 108 months. Owens (2004) questioned the reliability and validity of MLU as a diagnostic tool in older children, because of the inconsistent relationship between the rate of MLU change and age, and stated that a low MLU is not necessarily an indication of language impairment. In the present study MLU was used to compare the variation of MLU over time and not primarily in terms of language norms.

The MLU was calculated by dividing the TNW produced by each participant by the number of T-units. The MLU of the original narrative presented to the children was 9.3.

Subordination (Sub)

Subordination is an indication of increasing syntactic complexity. Research has reported a gradual improvement in children's understanding and use of subordinating conjunctions as they mature. The use of subordination is associated with exposure to a literate language style, because it occurs more frequently in written language than in oral language (Westby, 2005).

A subordinating clause is a conjunctive device that cannot stand alone. It is either joined as a phrase to the main clause with a subordinate conjunction or embedded within the main clause to fulfil a grammatical function in the main clause (Nippold, 1998). All the instances, where subordination occurred in the narratives were counted. In subordination, clauses are not added by linking with equal status, but by embedding a nominal clause or an adverbial clause within a main clause. Subordination can also occur in the form of relative clauses post-modifying the head noun, adverb or adjective in noun phrases, adverb phrases or adjective phrases. The total number of subordinations in the original narrative was 11.

Data Analysis

Audiotape recordings of the narratives elicited from the participants were independently transcribed and coded according to a specified format into the linguistic variables of interest by two qualified speech-language therapists. The inter-judge reliability for the 100% sample transcribed, coded and analysed was 99% for transcription and 97% for analysis. Discrepancies in the scores were discussed, and final decisions were made after consensus was reached.

RESULTS

Receptive vocabulary test results are presented first followed by the various narrative measures.

Receptive Vocabulary skills

The results of the participants' receptive vocabulary scores in Grade R and Grade 3 are presented in table 1.

Table 1: Means, standard deviations and ranges of two measures of the Afrikaanse Reseptiewe Woordeskattoets (ARW)

Variable		Mean	SD	Range
Standard score:	Grade R	75	12	58-102
	Grade 3	68 [a]	14 [a]	<50-95
Language age:	Grade R	53 [b]	10 [b]	35-75 [b]
	Grade 3	75 [b]	13 [b]	56-108 [b]

Notes: [a] Standard scores for (n=13) only because the rest of the participants obtained standard scores below 50. [b] ARW language age in months.

In Grade R only six participants obtained scores within 1 standard deviation (SD 12) of the average standard score of 100, which is considered to be within the normal range of development. Age equivalent scores indicated that the average language age of the Grade R children was 53 months, which is 22 months below their average chronological age. Retesting with the ARW 3 years later in Grade 3 indicated a drastic decline in receptive vocabulary standard scores over time. The average Grade 3 vocabulary standard score of 68 was about 3 standard deviations below the average (Buitendag, 1994). Only 12 participants obtained scores of 50 and above and just one participant obtained a standard score within the normal developmental range. The average language age of 75 months was 37 months (3 years) below the average chronological age of 112 months.

Productivity

The results of the participants' scores on productivity measures in Grade R and Grade 3 are presented in table 2.

Table 2: Means, standard deviations and ranges of two measures of productivity elicited in story retell narratives

Variable		Mean	SD	Range
Standard score:	Grade R	82	37	31-185
	Grade 3	129	31	69-184
Language age:	Grade R	12	4	6-23
	Grade 3	21	4	31-185

The narratives of the Grade 3 participants were markedly longer than the Grade R samples, as indicated by the increase in the total number of words (TNW) (129 vs. 82) and total number of T-units (21 vs. 12).

Lexical Diversity

As seen in table 3, the number of different words (NDW) in the two samples showed some increase from Grade R to Grade 3 from 40 to 63.

However, when corrected for the differences in length of the narratives, there was little or no change in the number of different words produced by the participants from Grade R to Grade 3.

Table 3: Means, standard deviations and ranges of number of different words (NDW) elicited in story retell narratives

Variable	Mean	SD	Range
Number of different words (NDW)			
Grade R	40	14	18-72
Grade 3	63	12	39-87
NDW correct for length	52^c	10^c	36-77^c
Grade R	49^c	4^c	43-57^c
Grade 3			

Note: ^{c} NDW as a percentage of TNW to correct for differences in length of narratives.

Syntactic Complexity

As shown by table 4, the increased productivity did not reflect an increase in syntactic complexity. This was confirmed by the lack of significant increase in the mean length of utterances (MLU) in the Grade 3 sample. No increase was seen in the number of subordinating constructions produced in the narratives of the Grade 3 participants, when compared to the Grade 1 narratives.

Table 4: Means, standard deviations and ranges of two measures syntactic complexity elicited in story retell narratives

Variable	Mean	SD	Range
Mean length of utterance (MLU)	6.8	1	4.7-8.8
Grade R	6.4	1	4.9-9.0
Grade 3			
No of subordinating conjunctions (Sub)	0	1	0-2
Grade R	0	1	0-2
Grade 3			

DISCUSSION

The chosen linguistic variables were investigated because they provide an accurate measure of communicative competence, language development, and because of their specific association with literacy acquisition and reading. Poor performance on these variables has been proven by longitudinal studies to result in reading problems and academic failure (Catts et al., 2002; Johnson et al., 1999).

The results of this study confirmed previous research findings demonstrating the persistence of language delays despite maturation and intervention (Johnson et al., 1999; Catts et al., 2002). The results are also consistent with findings that children with non-specific language impairment, i.e. globally delayed language are even less likely to achieve normal language status via maturational processes than children with specific language impairments (Tomblin, et al., 2003).

The majority of participants in the present study displayed impaired receptive vocabulary skills before they entered school. Their mean language age equivalent of 53 months was 22 months below their mean chronological age of 75 months. This implies that they started their formal school careers with inadequate vocabulary and language comprehension skills to cope with a curriculum designed for children with age-appropriate language development. None of these children were identified by caregivers and educators as language impaired, probably because they did not display articulation problems or obviously disordered language structures, e.g. wrong use of tense or word order. This is consistent with findings in

other studies that children with non-specific language impairment are unlikely to be identified as language impaired, and that they are therefore seldom referred for intervention or remediation (Catts et al., 2002; Fazio, et al., 1996; Tomblin, et al., 2003).

Consistent with studies reporting the persistence of language impairment despite maturation, the results of re-assessments three years later showed an even greater discrepancy between chronological age and receptive language age, with an average delay of 37 months. Despite three years of formal training and speech-language therapy intervention, the majority of the participants in Grade 3 displayed vocabulary skills expected of normally-developing children at school entry. This implies that at the end of Grade 3, they could reasonably be expected to comprehend written language at Grade 1 level. The results also indicate that the formal training, even when combined with speech-language intervention, does not seem to help the learners catch up with their vocabulary skills. It might also suggest that the particular speech-language intervention, in its present form, is not effective for learners with a non-specific language impairment and might need to change.

The negative impact of poor vocabulary skills on the acquisition of literacy and academic skills should not be underestimated. The reciprocal relationship between vocabulary and phonological awareness skills implies that poor vocabulary at school entry will compromise early reading acquisition at decoding level and are predictive of poor later reading comprehension (Sénéchal, et al., 2001). Adequate vocabulary skills are crucial for the comprehension of de-contextualized literate language, used in written texts and in the classroom environment.

The ability to retell a narrative has been shown by several studies to be a powerful predictor of longer-term language and literacy skills, which paves the way for transition between oral language and literacy (Botting, 2002; Kaderavek & Sulzby, 2000). Story-retelling requires children to construct mental representations of the meaning and structure of a story and then to retrieve, reconstruct and produce it in such a way that the listener can also construct meaning. This task demands a degree of meta-linguistic awareness and higher-order language processing and is linked to the ability to understand and produce literate language (Fazio et al., 1996; Westby, 2005).

Given their poor receptive vocabulary skills it was anticipated that the participants would produce poor retell narratives. Despite being provided with a well-constructed model narrative and visual aids, in an attempt to minimize the effect of possible short term memory deficits, they were unable to produce narratives of the same lexical and syntactical complexity as the stimulus narrative. In terms of productivity, the Grade 3 children produced much longer narratives, compared to their narratives at preschool level. The narratives contained more words and T-units, and they included more story detail. The increase in length did not, however, result in a corresponding increase in the syntactic and lexical complexity of the narratives.

As shown in table 3, the number of different words (NDW), when expressed as a percentage of TNW to control for the different lengths of narratives, decreased with age. The lack of improvement correlates with the severe delay in receptive vocabulary skills demonstrated by participants' ARW scores. Although the model narrative contained 133 different words, Grade 3 participants produced on average only 63 different words and seemed unable to imitate or utilise the new words presented to them. Research has shown that language impaired children do not learn novel words as quickly and

incidentally as their normally-developing peers (Oetting, Rice & Swank, 1995). This may account for the inability of participants to spontaneously produce a variety of words or even to reproduce the words in the story presented to them.

In terms of syntactic complexity, no significant growth occurred in the narratives produced by the Grade 3 participants. Their MLU scores, an indicator of language development and increased complexity at sentence level, stayed at the level of their preschool narratives. This is consistent with studies reporting that the MLU and syntactic complexity of narratives of language impaired children often resemble those of younger children (Scott & Windsor, 2000). According to Westby (2005), difficulties with the syntactic component of retelling narratives may also indicate problems with the integration of information and poor abstract reasoning abilities.

No growth seems to have occurred at intra-sentence level, as demonstrated by the number of subordinations produced. The increasing use of subordination indicates complexity at clausal level, and is associated with a literate language style and the development of complex language structures (Westby, 2005). Although the model narrative contained 11 examples of subordination, only 11 of the 25 participants used any form of subordination, and no participant produced more than two subordinations. Given that clausal subordination and embedding is prevalent in literate and written language, this does not augur well for the participants' reading comprehension abilities.

CLINICAL IMPLICATIONS

Although efforts were made to control as many variables as possible this study has several limitations which must be taken into account when the results are interpreted. A small, non-randomly drawn sample from a specific socio-economic, cultural, geographic and linguistic group was used, which may restrict the ability to generalize the results to other populations. The measures used to assess the language skills may not have been culturally and/or linguistically appropriate for the study population. It would have also been useful to compare these results with those of similar age non-disadvantaged population. Despite these limitations the results of this study have several practical implications.

Firstly, none of the participants in the study were considered to be language disordered by their teachers, possibly because they displayed no speech production disorders or obviously disordered language. Their language impairments may also be less obvious than those of second language learners in the same classrooms. Another reason may be that in a community where all the learners come from disadvantaged backgrounds, their language abilities resembled those of the majority of their peers. This raises the issue of whether these learners should be regarded as demonstrating delayed language at all, but rather that they lack proficiency in cognitive academic language, which has implications for assessment and intervention. Speech-language assessment at preschool level should include assessment of literate language features and emergent literacy skills, and intervention programmes should provide explicit and targeted literacy support.

The Literacy Learning Programme content of the Revised National Curriculum focuses on language acquisition, language development and communication, and educational authorities and educators are aware of the crucial role of language in attaining academic success. Awareness of the role of language in education is also reflected in the debate concerning second language learning and mother tongue instruction.

The educators involved in this study, both at preschool and at Grade 3 level, were unaware of the nature and extent of the language problems of the participants. The persistence of the language problems in the participants also indicates that three years of formal instruction within a curriculum with stated language and communication outcomes, had no or little impact on their language development. There is a need for educators to assess the cognitive academic language levels of learners in their classrooms, because without awareness of the learners' levels of language abilities no focused intervention can take place. Classroom-based intervention should also focus on the aspects of language development directly linked to reading acquisition and reading comprehension, e.g. vocabulary, narrative skills, and acquisition of complex syntax.

Secondly, a concerted effort needs to be focused on the identification and intensive intervention of language problems during the preschool years to allow for early intervention in educational settings. The persistence of the participants' language delays indicates that they did not out outgrow their language impairments and continued to fall even further behind. The presence of developmental language impairments is an established risk factor for reading failure. Early identification of at risk learners is crucial to allow for early intervention within programmes focused on the development of language skills necessary for the development of reading and literacy.

Thirdly, speech-language therapists, particularly those working in schools, need to perform an in depth evaluations of the format and content of existing intervention approaches with preschool and early school age population to improve their effectiveness. All the participants in the study received small-group speech-language therapy on a weekly basis for at least one year. The foci of the intervention programmes, in compliance with the Grade 1 educators' needs, were phonemic awareness training and general improvement of language skills. The lack of developmental progress in participants' language skills indicates that the intervention had not been effective. Reasons for this may be that the intervention programmes were too short-term and not intensive enough for the learners to benefit from them. Learners, who start school with delayed language and/or lack of emergent literacy skills, need intensive intervention focused on specific language and literacy skills, e.g. vocabulary and complex syntax. More active collaboration with educators to enhance transfer and reinforcement of therapy targets to the classroom may improve the effectiveness of speech-language therapy interventions. The participants' might have benefited more, if the intervention had started earlier and lasted longer.

CONCLUSIONS

The study demonstrated that, despite the academic training and speech-language intervention, none of the measured language skills showed significant improvement with age. At the end of the foundation phase, the learners still functioned at a much younger age level. This is consistent with research reports from similar studies from the United States of America. The low level of language skills portents poorly on the future academic learning of these individuals even though it is possible that the learners' language skills are completely adequate to cope with daily living within their own environment.

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APPENDIX

Stimulus narrative presented with 8 colour prints illustrating the story

Eendag was daar 'n mier wat in die veld geloop het.

Hy was vreeslik dors

en daarom stap hy na die dam toe

Die dam is vol water

en die mier kan daar lekker koel water drink

Die mier buk vooroor om van die koel water te drink

maar toe val hy binne-in die koue water

"Help my! Help my" roep die mier bang,

want hy kan glad nie swem nie.

"Ek moet die arme mier gaan help" sê die duif.

Hy pluk vinnig 'n groot groen blaar af

en gooi dit vir die bang mier.

Die mier klim blitsvinnig op die blaar en dryf na die wal van die dam toe.

"Dankie tog" sê hy bly.

"Ek het baie groot geskrik

want ek was baie bang dat ek gaan verdrink"

Narratives produced by a participant at age 6years 6months (Narrative 1) and at age 9years 6months (Narrative 2)

Narrative 1	Narrative 2
hy wou water gedrink het	eendag was daar 'n mier
toe verdrink hy	hy het water gaan drink
toe kom die duif	toe val hy in die water
toe help die duif vir hom	toe skree hy "help, help"
toe kom daar 'n man	toe vlieg daar 'n duif af
toe wil hy die duif geskiet het	toe pluk die mier vinnig-vinnig 'n blaar af
toe help die mier vir hom	toe is hy blitsig op die blaar
toe byt die mier vir die man	toe klim hy af
toe sê hy "ek is jou beste vriend"	toe loop daar 'n man met groot skoene
	toe wil hy die duif skiet
	toe lig hy sy geweer op
	toe byt die mier aan sy been
	toe val hy
	toe sê die duif: "Dankie dat jy my gehelp het"
	toe sê die mier: "Dankie dat jy vir my ook gehelp het"
	toe sê die mier: "Dis maar nog niks en ons is maar net vriende"