

This is an accepted manuscript of a review published by Taylor and Francis in *Southern African Linguistics and Applied Language Studies*, Volume 25, 2007, Issue 4, p. 519-538, available online at DOI: [10.2989/16073610709486479](https://doi.org/10.2989/16073610709486479)

First steps toward developing tools for language assessment in multilingual urban pre-schoolers

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Abstract

The development of language and communication skills in young children is directly related to future academic success. Young children who are at risk for language impairment should, therefore, be identified as early as possible. Multilingualism, which has become a universal phenomenon, may mask the presence of language impairment. In South African urban multilingual pre-school contexts, the teacher or speech-language therapist is not always proficient in the young multilingual learner's primary language. Assessment of learners' language behaviour will be conducted in English, which is generally the language of mutual understanding. The aim of this study was to determine the feasibility of constructing a profile of typical English language behaviours for pre-school EAL learners in a circumscribed urban area. The profile is intended to provide speech-language therapists and pre-school teachers in collaborative practice with a dual-purpose tool: an instrument for identifying those learners who are at risk for language impairment/language learning disabilities, and a means of obtaining guidelines for the development of an appropriate programme for facilitating language development. The results show that it was possible to construct a profile of typical English language behaviours for nine aspects of language form, one aspect of language content, and six aspects of language use.

Introduction

Language behaviour in children has for several decades been an ongoing centre of research activity for linguists, educators, and speech-language therapists (Hoff, 2005:5ff). The focus of these activities is now increasingly on multilingualism, which has become a global issue (Brown & Attardo, 2005:88). In schools especially, multilingualism has become the rule rather than the exception.

Language in education will always be a highly politicised topic contextualised by past events and present policies (see for instance Peirce & Ridge, 1997:171, 172). Although the academic consequences of various language policies and practices in schools is a relevant and current topic for research, research concerning the influence of African languages on the language of multilingual speakers has been restricted mainly to adults (for example Van der Walt, 2001).

The various social and cultural issues relating to language in the education context have received considerable attention in the literature as a result of the changes in the South African socio-political arena (see for example Alexander, 1995; Bosman & Van der Merwe, 2000; De Klerk, 2002a & 2002b; Heugh, 2002a & 2002b, 2005; Kamwangamalu, 1999; Lockett, 1993), but language in the pre-school context has not been a particular focus. The importance of language and communication skills for school readiness and future academic success is readily acknowledged by early childhood practitioners (Catts, 1993; Lockwood, 1994; Nelson, 1998; Catts, Fey, Zhang & Tomblin, 2001; Rossetti, 2001). Early communication skills have for some time been recognised as the only developmental domain relating directly to later academic success (Capute, Palmer & Shapiro, 1987:60).

Research on child language development in South Africa has, up to the present time, been a relatively neglected area. Linguists in South Africa generally tend to take less interest in language development in young children than in language in other contexts, as demonstrated by the papers delivered at the 2005 conference of the South African Applied Linguistics Association (SAALA). Consequently, speech-language therapists working in Early Childhood Development (ECD) have had to seek recourse to other means for obtaining locally relevant information on language development. South African research on normal or typical language development has, with a few

exceptions (for example Vorster, 1983; Wolff, 2000), been conducted by speech-language therapists rather than linguists. Speech-language therapists require this information for their clinical practice, notably for distinguishing between typical and atypical language development in young children.

The development of language in young children is not an isolated process, but a component of the total process of change in which children are continually engaged while growing and developing. It is equally true that language, once it has developed, plays an important part in the subsequent process of total development. Inevitably, children with language impairment are at a serious disadvantage as far as language-based classroom activities, particularly reading and writing, are concerned (Catts, 1993:948). Young children who are at risk for language impairment should, therefore, be identified as early as possible so that their language development may be optimised. The setting where this identification most often takes place is the pre-school, where young children are observed as they interact with their peers and with adults.

Urban areas may be better provided with pre-school facilities than rural areas, but the urban situation is often more complex in many respects. In South Africa, multilingualism in urban areas has substantially increased in the past decade and has created challenges both for the teachers and the speech-language therapists who function as support personnel in the education context. Many languages, of which the majority are African languages, are likely to be represented in an urban inner-city pre-school classroom, and the same classroom is also likely to have many learners from multilingual homes (Du Plessis & Naudé, 2003:126).

In the Gauteng province the urban populations represent the linguistic diversity of the country as a whole, as illustrated by the statistics presented in Statistics South Africa, 1998, and Census in Brief, 1998.

The eleven languages represented in these statistics do not reflect the whole spectrum of language diversity that is to be found in all urban areas, as is evident in the language data for pre-schoolers in ECD in a specific Gauteng urban area (Sunnyside/Pretoria Central Business District [CBD]) which is presented in Table 1. The languages indicated refer to the primary language of pre-school learners as

recorded by teachers. This data was obtained from the Kommunika project, a research project involving 32 multilingual classes in ECD centres in the Sunnyside/Pretoria CBD geographical area (Du Plessis & Naudé, 2003).

Table 1. Language data from 32 pre-school classes in the Sunnyside/Pretoria CBD geographical area

Languages (n=14+)	% speakers** (N=489)
<i>Official spoken languages of South Africa*</i>	
Afrikaans	40.5
Sesotho	15.5
English	14.7
Setswana	10.2
Xhosa	4.1
Sesotho sa Leboa (the Northern Sotho varieties)	3.9
Zulu	3.5
Tshivenda	0.8
IsiNdebele	0.4
Siswati	0.4
Xitsonga	0.4
Other languages	
African languages from other African countries (for example Swahili)	2.5
French	0.6
Portuguese	0.4
Other languages (non-African)	2.1

Adapted from Du Plessis & Naudé, 2003:126

* *There were no instances of children with sign language as first language*

** *Rounded off to first decimal*

It is clear from Table 1 that several other languages besides the eleven official languages of South Africa are represented in the language profile of these multilingual pre-schools. As far as language issues are concerned, professionals and parents involved in this education setting find themselves confronted with two difficult questions:

It is now widely accepted as best practice that language assessment should take place in the child's first language (L1) – but what happens if no teacher or therapist can speak the child's L1?

Teachers and therapists have long abandoned the idea of limited English proficiency (LEP) and English as additional language (EAL) is accepted as one standard found in our classrooms – but who can answer the following question in any individual case: Does the child’s English resemble that of the other EAL pre-schoolers, or are there non-typical characteristics?

The purpose of this article is twofold: firstly, to describe how a team of speech-language therapists set about investigating the possibility of determining a set of language characteristics typical to a circumscribed group of EAL pre-schoolers. Secondly, the aim is to introduce linguists to the way in which speech-language therapists approach the field of child language development and its challenges.

Any researcher’s orientation is optimally determined by the purpose of the study, that purpose then being matched with an approach encompassing the attributes most likely to accomplish it (Lazaraton, 1995). This study is conducted first of all from a clinical perspective. *Clinical* refers to the affirmation of the researcher that the clinician (speech-language therapist) is seen to be a part of the support system for the educational practitioner (pre-school teacher). It is important also to state clearly that the clinical perspective ensures that *cultural differences in language behaviour* are differentiated from *language disorder*. This distinction was initially drawn by Taylor (1980), who pointed out that a communication disorder should be interpreted within a specific cultural framework, and that the study of normal and pathological communication should be couched in cultural terms, ensuring a culturally and linguistically valid diagnosis.

Although the researcher is not a linguist, or perhaps especially since this is the case, the association between the clinical and the linguistic perspective should be made explicit. Linguists seem to agree that language consists of different subsystems, various divisions have been suggested, for example form, content and use (Bloom & Lahey, 1978); or morphosyntax, lexicon and pragmatics (Rollins, 1994:373); or phonologic, morphologic, syntactic, semantic, and pragmatic parameters (Committee on Language, American Speech-Language-Hearing Association 1983:44). Upon closer scrutiny, it appears that the classification by Bloom and Lahey (1978) could subsume the other classifications, as depicted in Figure 1.

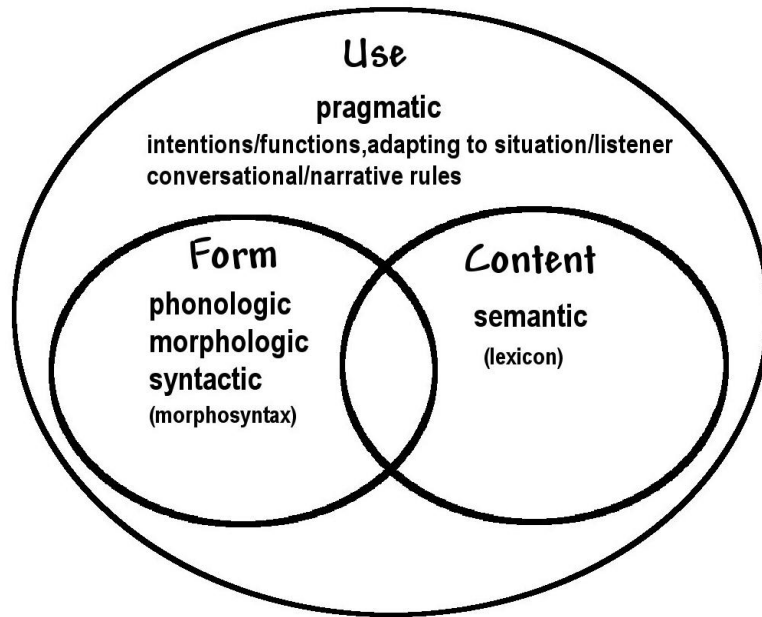


Figure 1. Language areas

From a clinical point of view, the all-encompassing dimension of language is *language use*, since both form and content only become relevant when language is used to some purpose. Furthermore, the subsystems of language may be described separately, but they never function separately. They are as closely intertwined as the strands in a braid, forming one functional whole. In children with language disorders the braid may be unravelled, and it is this “coming undone” that often differentiates the language of children with language impairments from the language of children with intact language (Rollins, 1994:373).

Problem statement

The urban pre-school context in Gauteng is characterised by:

- Large multilingual pre-school classes
- Multilingual/linguistically diverse teachers (Du Plessis & Naudé, 2003)
- English as the language of mutual understanding (Naudé, Meyer, De Jongh & Du Plessis, 2000)
- The prospect that children will be placed in schools with English as language of learning and teaching (ELoLT) (De Klerk, 2002a: 2)

- Few speech-language therapists, and even fewer who speak African languages (Pickering, McAllister, Hagler, Whitehill, Penn, Robertson & McCready, 1998)
- Most significantly, dearth of data on language behaviours of all speakers in the pre-school.

From the point of view of ECD practitioners, the distinction between children with typical EAL characteristics and children with possible inherent language impairment is a crucial issue. Many young children acquire two languages simultaneously and, in addition, often have to acquire yet another language sequentially when they enter school or pre-school. These young learners generally exhibit some linguistic characteristics not found in first language learners. As they become more adept at using the additional language, their language profile will gradually come to resemble the profile of a first language speaker, although it will likely retain some distinguishing characteristics (Peirce & Ridge, 1997; Heugh, 2002b; Owino, 2002). Amongst these learners, however, there may be some who will not in time succeed in modifying their language structures in the direction of the standard profile. These include the learners who may have an inherent language disorder, since children with specific language impairment continue to experience difficulty in the acquisition of language at every developmental stage (Catts et al., 2001:38). The sooner these learners can be identified and the earlier intervention can commence, the better their chances will be for avoiding academic failure. In order to identify EAL pre-school learners in urban Gauteng who are at risk for language impairment, teachers and therapists need a profile of typical English language behaviour for this population as a frame of reference.

The research project

Kommunika (pre-school division of the Centre for Early Intervention in Communication Pathology) at the Department of Communication Pathology, University of Pretoria, initiated an extensive research programme which included a research project with the following aim:

to determine the feasibility of constructing a typical English language profile for a group of pre-school EAL learners in a circumscribed urban area.

The selected multilingual urban area was the central business district (CBD) of Pretoria in the Gauteng province.

As stated in the introduction, a significant way in which such a language profile could be used would be to enable speech-language therapists and pre-school teachers to distinguish between typical and atypical language development in young children; more specifically, to identify language behaviours that could be indicative of language impairment in linguistically diverse children (Craig & Washington, 2000:366).

The characteristics of specific language impairment found in pre-school children may be divided into the following categories: problems with requirements for language learning, general language characteristics, phonologic features, morphosyntactic features, pragmatic features, and semantic features. A summary of these features are provided in Table 2. The table also outlines those morphological indicators of language impairment specific to English, as well as characteristics of specific language impairment observed in bilingual learners. This information will be important as a guideline when determining which aspects to include in the description of a typical language profile of young EAL learners, which will be utilised to differentiate between children with and without language impairment.

Table 2. Characteristics of specific language impairment in young children

General characteristics of SLI	Morphological indicators of language impairment specific to English
<p><i>Problems with requirements for language learning:</i></p> <ul style="list-style-type: none"> • Poor ability to perceive sequenced acoustic events of short duration • Poor ability to use symbols • Poor ability to invent syntax from language of environment • Inadequate mental energy • Probably long-term memory storage problems 	<p><i>Verb structures:</i></p>
<p><i>General language characteristics:</i></p> <ul style="list-style-type: none"> • Expressive as well as receptive difficulties • Slow processing 	<ul style="list-style-type: none"> • General verb knowledge inadequate • Prolonged acquisition period for regular past form • Bare stem of verb produced for both regular and irregular past • Percentage of correct irregular past forms comparable to younger MLU-matched children • Tense marking (only indicative for 5+ years) • Auxiliary verbs omitted, especially in more complex propositions • Slope of increase in finite verb morphology as function of lexical diversity is less than for typically developing children
<p><i>Phonologic characteristics (language form):</i></p> <ul style="list-style-type: none"> • Phonologic simplification patterns typical of younger children 	
<p><i>Morphosyntactic characteristics (language form):</i></p> <ul style="list-style-type: none"> • Reduced use of questions • Difficulty acquiring verb structures • Co-occurrence of less mature and more mature syntactic and morphological forms • Developmental order similar to that found in typically developing children 	
<p><i>Pragmatic characteristics (language use):</i></p> <ul style="list-style-type: none"> • May act like younger typically developing children • Difficulty adapting language to listener • Difficulty repairing communication breakdowns • Age-appropriate pragmatic functions but ineffectively expressed • Less effective in securing conversational turn than peers • Narratives less complete, more confusing than those of peers 	<p><i>Noun phrase structures:</i></p>
<p><i>Semantic characteristics (language content):</i></p> <ul style="list-style-type: none"> • Slow emergence and development of vocabulary • Naming difficulties, possibly related to semantic storage (lack of richness and diversity) • Under-utilization of available lexemes 	<ul style="list-style-type: none"> • Noun morphology inadequate (only under 4 years) • Function words (determiners, prepositions) omitted in obligatory contexts • Pronoun usage comparable to that of younger *MLU-matched children • Over-use of one pronoun form rather than random errors
<p><i>Additional observations pertaining to bilingual learners with SLI:</i></p> <ul style="list-style-type: none"> • Phonological problems not observed • Emotional/behavioural problems (bilingualism seen as aggravating factor) • Does not become proficient in L2 even after 2-3 years of exposure 	<p>* MLU = mean length of utterance</p>

Sources:

Conti-Ramsden & Windfuhr, 2002; Crutchley, Botting & Conti-Ramsden, 1997; Grela & Leonard, 2000; Johnston, Miller, & Tallal, 2001; Leonard, Miller & Gerber, 1999; Nelson, 1998: 104; Owens, 1999:37 – 38; Rice, Wexler, Marquis, & Hershberger, 2000.

Abbreviation:

Research approach

Cresswell (1994: 177-178) suggests the term “dominant-less dominant design” for research where both qualitative and quantitative concepts are utilised. In the case of the present research, the quantitative paradigm dominates overall, but in the discussion some qualitative descriptive procedures were considered appropriate. A *mixed quantitative-qualitative descriptive cross-sectional design* (Leedy & Ormrod, 2004:108) was therefore selected for this study. This non-experimental design allows the researcher to study a single group, which may consist of sub-groups, only once (Fouché & De Vos, in De Vos *et al.*, 2002:140). It is regarded as particularly appropriate for looking at developmental trends (Leedy & Ormrod, 2004:108).

The language database for 30 EAL pre-schoolers from the circumscribed geographical area was collected during 20 minutes of conversation (see Data Collection for particulars) between each pre-school participant and a trained speech-language therapist who acted as research fieldworker.

The language data was analysed to identify typical language behaviours relating to various aspects of language.

Research conducted in the field of human behaviour (including communicative behaviour) is guided by ethics principles that set the keynote for the entire research process, from planning through implementing procedures to reporting and discussing the findings (American Psychological Association, 2002; De Vos, 1998:23 – 34; Leedy & Ormrod, 2004:101-104; Weideman, 2005). The way in which these principles informed the methods and procedures of the present study is elucidated in the rest of this section. Ethical clearance was obtained from the Research Proposal and Ethics Committee of the Faculty of Humanities at the University of Pretoria for these activities.

The principle of respect dictated first of all that all the participants in the research project would participate voluntarily, that they would be assured of anonymity and of the confidentiality with which all data would be treated, and that they could withdraw from the research project at any time if they should wish to. To this end, the practice of obtaining informed consent from teachers and parents by means of letters and, where required, verbal communication, was followed.

The potential pre-school participants in this study were informed of the proposed procedures and provided the choice to participate or not, as they wished (Leedy & Ormrod, 2004:101). Only those children who assented, by indicating that they wished to interact with the researcher, were involved.

Furthermore, the participants and their parents, as well as the schools and the teachers, remain anonymous in the report. In this way confidentiality is ensured.

It was stated clearly in the correspondence with teachers and parents that the results of the research would also be used in constructing screening instruments, support material and other clinical publications.

The principle of beneficence and non-maleficence was upheld by ensuring that no school, teacher, parent, or pre-schooler incurred any negative/harmful effects from either participating or not participating in the research. Care was taken that there would be no risk for the pre-schoolers in participating in this study, as they were not removed from their safe environment or singled out in any negative way. In addition, the ongoing monitoring of the research programme by Kommunika (see above) ensured that the research was relevant for the setting for which it was designed, namely multilingual urban pre-schools in South Africa and specifically the unique South African collaborative teacher-therapist team.

The principle of justice is reflected in the inclusion and exclusion criteria of participants, which are described below.

These procedures were considered highly relevant to the current study because of the inclusion of vulnerable participants. Young children and members of culturally and linguistically diverse groups are potentially exposed to exploitation and therefore need to be protected from malpractice, whether it be intentional or unintentional. For this reason particular care was taken to ensure that ethical principles were upheld.

Sampling plan

The EAL pre-school learners who participated in the study come from a variety of language backgrounds so that the data does not reflect any particular language influence. In clinical practice, it is considered the ideal that both languages of a

bilingual client should be assessed (SASLHA, 2003). However, this may not be possible in all cases, and certainly often is not viable in multilingual pre-school contexts. If a number of different languages are represented in the pre-school, if teachers or therapists are not proficient in all of these languages, and if there is a lack of trained interpreters for the pre-school setting, it is improbable that effective assessment in both/all languages of a multilingual pre-schooler will take place. For these same reasons it is at present not practicable to construct separate profiles for children from each conceivable language background, and therefore the multilingual pre-schoolers from one particular pre-school setting are regarded as a single population. The aim was to determine the common language characteristics, if any, that are demonstrated by the multilingual EAL pre-schoolers. Such common features have been noted in the literature (Owens, 2001:433) but have not yet, as far as could be determined, been identified for any South African multilingual urban pre-school population. On the other hand, as a result of the multitude of factors impacting on childhood bilingualism or multilingualism (Hoff, 2005:337, 350-352), multilingual language development varies considerably in individual children, even if the specific languages they acquire happen to be the same. The implication, however, remains the same: the aim is to isolate any shared characteristics of language behaviour.

The individual variation mentioned in the previous paragraph could not be controlled, and indeed was accepted as unavoidable since, as Crutchley (1999: 211-212) points out, “heterogeneity is the norm; thus, concentrating on differences between ethnic, linguistic or other groupings would limit the applicability of research findings and could overlook aspects which apply to bilingual children in general”. However, the possible impact of inherent factors such as poor health status, hearing loss, previously identified specific language impairment, low intelligence and poor eyesight was considered a significant source of variability for typical behaviour. Consequently, the teachers were requested to exclude learners who exhibited any of these characteristics from the class lists.

Since the participants were selected to represent a specific section of the community (urban EAL pre-school learners), the selection process was mainly non-probability purposive sampling, with elements of representative sampling and systematic sampling with a random starting point (De Vos, 1998:198, 195 and 193). The

sampling method selected for this study was non-probability sampling, since there is no way of guaranteeing that each element of the EAL urban pre-school population will be represented in the sample (Leedy & Ormrod, 2004:206). Non-probability purposive sampling is a sampling method where the subjects are chosen with a particular purpose in mind (Leedy & Ormrod, 2004:206). In this case, the sample was selected according to the judgement of the researcher regarding the typical attributes of the population (De Vos, 1998:198), since the Sunnyside/Pretoria inner-city area was selected as representative of the multilingual population found in urban South Africa. In order to contain the present study within the boundaries of a realistic time frame, participants were selected from one demographically representative school.

Representative sampling was employed to ensure that the school selected from the Pretoria inner-city area had approximately the characteristics of the population relevant to this research (De Vos, 1998:193). These characteristics were:

- The age range of the learners, namely, from four to seven years
- The language profile of the school as a whole, namely, a multilingual profile representing at least 12 languages (compare Table 1)
- The language of learning and teaching, which needed to be English.

Systematic sampling, which draws a portion of the population in such a way that each member has an equal chance of being selected (De Vos, 1998:193, 195, Fowler 1984:23, Fink 1995: 11), was used to select the individual children from the designated school. Through a process of simple systematic sampling with a random starting point (De Vos 1998:197), every third child on the school class lists was selected. The procedure was continued until ten children from each of three age groups were enlisted as participants.

The participants were divided into three age groups as follows in accordance with the class grouping in the pre-school:

- 4-0 years to 4-11 years – Junior group
- 5-0 years to 5-11 years – Middle group
- 6-0 years to 6-11 years – Senior group.

These groups were retained for the purpose of the research, mainly because one of the potential outcomes of the research could be a set of suggestions for classroom activities aimed at promoting the development of English as additional language (EAL) for these multilingual pre-schoolers.

The participants in the study are depicted in Table 3.

Table 3. Characteristics of participants (N=30)

<i>Age</i>	<i>Gender</i>	<i>N</i>	<i>Home languages*</i>	<i>LoLT</i>
4-0 to 4-11 (Junior group)	M	4	Northern Sotho 2 Unknown 2	English
	F	6	Northern Sotho 2 Setswana 2 Zulu 1 Xitsonga 1	
	Total 10			
5-0 to 5-11 (Middle group)	M	5	Sesotho 2 Northern Sotho 3	English
	F	5	Setswana 2 Sesotho 3	
	Total 10			
6-0 to 6-11 (Senior group)	M	5	Setswana 4 Sesotho 1	English
	F	5	Sesotho 1 Zulu 1	
	Total 10		IsiNdebele 1 Setswana 1 Northern Sotho 1	

*The languages listed here include only the main language for each participant.

The sample size may be a concern for statisticians, since the number of participants (30) is relatively small, with only 10 children in each age group. The reason for the sample size is feasibility (De Vos et al., 2002:199). The wide-ranging analyses conducted on the language data would make larger numbers prohibitive. Although

smaller sample sizes can prevent excessive sensitivity by only identifying those features that are truly significant (De Vos et al., 2002:200), it is acknowledged that this number of participants renders no more than an indication of possible trends in a typical language profile.

Data collection and fieldwork practice

A language sample was collected from the pre-school participants and subsequently transcribed. The layout of the transcriptions followed in broad outline the format suggested by Crystal, Garman & Fletcher (1989) and also by Owens (1999:139), with the addition of a column for indicating the type of stimulus provided by the adult as well as the type of response offered by the pre-school participant. Elicitation materials were required to ensure that all participants had an equal opportunity to demonstrate their language skills, and to ensure that they had the opportunity to demonstrate all the required aspects of language behaviour.

From the multitude of possibilities, the researcher had to select those materials that would best fit the purpose of the study, namely those that would reflect the typical language behaviours a teacher-therapist team would be able to observe within a realistic time frame.

The data were collected from the participants using three strategies:

- Semi-structured spontaneous and elicited conversation with an adult
 - elicited with the aid of a visual stimulus (single pictures)
 - structured around a topic involving personal experience.
- Communication activities structured according to a specific protocol (Creaghead, 1984) designed to elicit a variety of pragmatic behaviours
 - communicative intentions/language functions
 - conversation skills
- Responses to test items designed to elicit specific expressive language behaviours, notably various morphological structures.

These strategies were incorporated in a conversation between the research fieldworker and each pre-school participant. The conversation, which took place at the pre-school in a room that was familiar to the pre-schooler, consisted of the following activities:

- Typical introductory communication such as requesting information about last name and age
- Talking about pictures, asking and answering questions about pictures
- Making up a story about a picture sequence
- Discussing birthday parties, with a large picture to facilitate the flow of discussion
- The fieldworker related a personal experience (going to the doctor) and encouraged the pre-schooler to produce a similar personal narrative
- Various activities aimed at eliciting questions, requests, and comments (e.g. proposing a painting activity but not providing all the necessary materials).

For language data collected during the natural conversation, the verbal and non-verbal output of both participants (adult and EAL pre-school learner) was transcribed manually.

For language data collected during the activities aimed at eliciting various pragmatic behaviours, the specified behaviours were noted as observed or not observed.

For language data collected as responses to specific questions about pictures, the elicited responses of the EAL learners were noted, together with any additional comments on communicative behaviours observed by the adult. The questions aimed to elicit various morphological structures such as the plural form of nouns and verb forms related to number. If the pre-school participant offered any additional comment, asked a question, or demonstrated any other communicative behaviour, these utterances were noted and transcribed.

Data analysis procedures

The language data was analysed in order to obtain as much information as possible regarding the patterns and trends in the language profile of the population represented by the pre-school participants included in the survey.

Two types of data were identified:

- *Categorical data*, with ordinal variables. This data described *phenomena that either occurred or did not occur*; for example with reference to complex

syntax – did embedded clauses occur? Data analysis in this case involved counting the number of individuals demonstrating a particular behaviour, as well as the number of times each individual demonstrated the behaviour. Although mean percentage of use per group has been used in other studies to describe the *use* of a specific structure (Johnson, Miller & Tallal, 2001), researchers like Balason and Dollaghan (2002:961) caution against this practice because a relatively small proportion of the subjects in a particular case may contribute to produce a high mean percentage. It is therefore advisable to obtain some indication of the number of participants per group who demonstrate the target behaviour. Since a single occurrence of any behaviour may be attributed to chance, *more than one* example was required in the present study in order to confirm that the individual does indeed demonstrate the behaviour. In accordance with Theakston, Lieven, Pine, and Rowland (2002:790) and also Johnson, Miller and Tallal (2001:360), therefore, children were assumed to be demonstrating a particular behaviour once they had produced two instances of that behaviour. For the purpose of this research, the following categories were created and are here stated clearly as values selected according to the discretion of the present researcher:

<i>Category</i>	<i>Percentage of group demonstrating behaviour</i>	<i>Interpretation</i>
1	< 50%	non-presenting/negligible
2	50%-79%	noteworthy
3	80%+	typical

- *Quantitative data*, with discrete variables. This data described *phenomena that occurred in a certain measure*, for example mean length of utterance, or total number of verbs produced. Quantitative treatments of the data in this case included mean or median where applicable for each age group, standard deviation, and range of typical behaviour regarding the occurrence of specific language characteristics (De Vaus, 2001: 195; Crystal, 1987:90). The range of occurrence regarded as representative of the group was determined by implementing two standard deviations from the mean (Steyn, Smit, Du Toit & Strasheim, 1994: 138). Where the distribution was skewed by a single very low and/or a single very high score, the 10th and 90th percentiles were used to

delimit the range of behaviour displayed by 80% of a group of participants (Steyn, Smit, Du Toit & Strasheim, 1994:127).

Examples of corresponding quantitative treatment of similar data in the literature are scarce. Future studies will have to affirm, or determine anew the accurate typical range of these behaviours.

Results

As orientation to the discussion of results, the reader is referred to the graphical representation of the language areas provided in Figure 1.

There were specific considerations for the selection of language behaviours to be included in the profile:

- Aspects of language form, language content and language use typically demonstrated by children with language impairment. These aspects have been discussed in some detail in the literature (for example Botting & Conti-Ramsden, 1997; Nelson, 1998: 104; Leonard, Miller & Gerber, 1999; Owens, 1999: 37 – 38; Crutchley, Grela & Leonard, 2000; Rice, Wexler, Marquis, & Hershberger, 2000; Johnston, Miller, & Tallal, 2001; Conti-Ramsden & Windfuhr, 2002).
- Behaviours that would reflect the typical language behaviours a teacher-therapist team would be able to observe within a realistic time frame (Conti-Ramsden & Crutchley, 1997).
- Features of language, mainly of language form, found in children with English as additional language (Nxumalo, 1997).
- Several aspects of language form, content, and use were selected for extensive analysis. Aspects of form included syntactic complexity, syntactic and morphological structures, and mean length of utterance. Language use was examined through:
 - the types of utterances produced (for example spontaneous initiating utterance, response to question, follow-up response to adult's reaction),

- mazes that occurred (false starts, reformulations, revisions, repetitions, and filled pauses, as described by Friel-Patti, DesBarres & Thibodeaux, 2001),
- discourse devices (connectives, ellipsis),
- communicative functions (interpersonal and ideational functions as described in Keshavarz, 2001),
- conversational skills (repairing breakdowns in conversation, turn-taking, and appropriateness of responses), and
- narratives (personal narratives describing a personal experience, as well as narratives elicited by means of picture sequence cards).

The main portion of the language content section dealt with word counts (total number of words, total number of different words, number of verbs, number of nouns). It should not be construed as the intention of this section to imply that language content refers only to words, and especially not that an indication of language content can be derived from word counts. These counts were considered to be data gathering activities that could be conveyed with minimum training to pre-school teachers in the teacher-therapist teams operating in EAL pre-schools. The results that were obtained can be used as a starting point or groundwork for other more profound analyses.

Typical language behaviours

The results of the wide-ranging language analyses showed that it was possible to construct a profile of typical English language behaviours for certain aspects of language form, use, and to a lesser extent, content.

Typical language behaviours of the EAL pre-school participants (demonstrated more than once by 80%-100% of the participants in an age group) were identified for nine aspects of language form, one aspect of language content, and six aspects of language use. Noteworthy behaviours (demonstrated more than once by 50%-70% of the participants in an age group) were identified for nine aspects of language form, and seven aspects of language use. A representative range of behaviour was identified for one aspect of language content. For six aspects of language content and one aspect of language use, a true representative range could not be determined as the scores were

too widely scattered. Overall, however, these results are valuable in that they demonstrate the feasibility of using language data collected from a small group of EAL pre-schoolers to construct a profile of typical English language behaviours in a specific context.

Language form

Various aspects of language form were examined from the transcriptions of a structured conversation between the researcher and the pre-school participants. An example of noteworthy and typical forms is depicted in Table 4. The language produced by the Junior group was both limited in form and varied between the participants, so that no typical behaviours could be identified.

Table 4. Noteworthy and typical clause structures produced by pre-schoolers

	Junior group (4-0 to 4-11)	Middle group (5-0 to 5-11)	Senior group (6-0 to 6-11)
<i>Clause structures Noteworthy behaviour (50-80% of group)</i>			1. "No" 2. SVC (subject-verb-complement) "It was sore" 3. SVOA (subject-verb-object-adverbial) "The stove blood me here"
<i>Clause structures Typical behaviour (80%+of group)</i>		SVO (subject-verb-object)	1. "Yes" 2. SV (subject-verb) "They're playing" 3. SVA (subject-verb-adverbial) "I'm go with them" 4. SVO (subject-verb-object) "They're going to eat a cake"

Abbreviations: S=subject V=verb C=complement O=object
A-adverbial

Table 5 provides a summary of the typical language behaviours relating to language form that were identified for the pre-school participants.

Table 5: Typical language behaviours relating to language form identified in EAL pre-schoolers

Aspects/ structures	Typical behaviours identified		
	Junior group	Middle group	Senior group
Syntactic complexity	Simple sentences	Simple sentences	Simple sentences
Syntactic structures		SVO	"Yes" SV (subject-verb) SVA (subject-verb-adverbial) SVO (subject-verb-object)
Noun phrase		DN PrepDN	DN PrepDN
Verb phrase	Is/was/am + verb + -ing		Is/was/am + verb + -ing
Pronoun phrase		"I"	"I", "me", "my" "They"
Morphology of main verbs		Verb stem (grammatically acceptable/unacceptable)	Verb stem (grammatically acceptable/unacceptable) Progressive aspect
Subject-verb agreement		Subject-verb agreement for 1 st person singular	Subject-verb agreement for: 1 st person singular 3 rd person singular 3 rd person plural Subject-verb non-agreement for 3 rd person singular
Noun morphology			Regular plural
MLU in morphemes:	Conversation 1.9 – 4.4 Test 2-6.8	Conversation 2.5 – 4.5 Test 2.8-6.9	Conversation 3.1 – 5.8 Test 5.3-8.6
MLU in words:	Conversation 1.6 – 4.2 Test 1.2-6.3	Conversation 2.1 – 4.1 Test 2.2-6.1	Conversation 2.9 – 5.4 Test 4.8 – 7.8

Abbreviations:

S Subject

V Verb

O Object

D Determiner

N Noun

Prep Preposition

A Adverbial

MLU Mean length of utterance

Language content

Aspects of language content that were analysed, included the total number of words produced during a 20 minute conversation, the number of different words produced, and the ratio between these two counts. This ratio, often referred to as the *type-token*

ratio, shows both a smaller spread and a diminished ratio with increase in age (Table 6).

Table 6. Word counts for pre-school participants

	Junior group (4-0 to 4-11)	Middle group (5-0 to 5-11)	Senior group (6- 0 to 6-11)
Typical range for total number of words produced (TNW)	38 - 161	51 - 142	166 - 439
Typical range for total number of different words produced (TDW)	20 - 49	33-63	53 - 99
Typical range for type-token ratio (TTR)	0.30 - 0.78	0.45 - 0.65	0.21 – 0.34

A summary of the representative ranges of language behaviours relating to language content identified for the pre-school participants is provided in Table 7.

Table 7. Representative ranges of language behaviours relating to language content identified in the three groups of EAL pre-schoolers

Word counts/ratios		Means and representative ranges identified		
		<i>Junior group</i>	<i>Middle group</i>	<i>Senior group</i>
General word counts and TTR	TNW	Mean 70.5	Mean 96.3	Mean 278.5
		Range 9 – 154 (145)	Range 51 – 142 (91)	Range 166 – 439 (273)
	TDW	Mean 33.0	Mean 49.4	Mean 72.7
		Range 7 – 49 (42)	Range 33 – 63 (30)	Range 53 – 99 (46)
	TTR	Mean 0.47	Mean 0.51	Mean 0.26
		Range 30 - .78 (48)	Range 45 - .65 (20)	Range 21 - .34 (13)
Specific lexical counts	TNV	3- 21 (18)	11 – 21 (10)	27 – 61 (34)
	TDV	2 – 13 (11)	8 – 13 (5)	9 – 38 (29)
	TNN	1 – 20 (19)	11 – 25 (14)	27 – 65 (38)
Comparative percentages	<i>Mean number of verbs (TNV) as percentage of mean TNW</i>	16%	19%	18%
	<i>Mean number of nouns (TNN) as percentage of mean TNW</i>	17%	17%	18%

Language use

One of the ways in which language use was examined, was through high-point analysis of personal narratives. In this method (Rollins, McCabe & Bliss, 2000:227) each clause of the child's narrative is assigned with the appropriate element: orientation, action, evaluation, resolution, and coda. One clause may be multiply coded. A series of questions guide the clinician to identify the type of narrative structures produced by the child; for example, the simplest form of narrative is a *one-event narrative*. A somewhat more complex form (*miscellaneous narrative*) describes multiple events but in the real world there would not be a logical or causal sequence to these events; and a *chronological narrative* without any specific resolution is termed an *end-at-high-point narrative*. A narrative concluding with a resolution and a coda is a *classic narrative*. Although no typical behaviours were identified (Table 8), a developmental trend was found here as for the other aspects.

Table 8. Personal narratives analysed according to high-point analysis (Rollins et al., 2000) - noteworthy behaviour (50-80% of group)

Junior group (4-0 to 4-11)	Middle group (5-0 to 5-11)	Senior group (6-0 to 6-11)
One-event narrative produced by 50% of participants.	Miscellaneous narrative produced by 50% of participants.	Chronological narrative produced by 50% of participants.
More than 60% of any personal narrative falls in the action category	More than 60% of any personal narrative falls in the action category	More than 60% of any personal narrative falls in the action category

As in the case of several other language aspects, there is a significant difference between the results for the EAL pre-schoolers and the data reported in the literature for their European North American peers (Table 9).

Table 9. Comparison between development of high-point narrative structure in EAL pre-school participants and in European North American (NEA) children (data from Rollins et al., 2000:225).

Developmental sequence	Typical age for NEA children	Age for EAL pre-schoolers (50% of participants in age group)
One-event narrative	Before 3 ½ years	4 years
Two-event narrative	3 ½ years	
Miscellaneous narrative		5 years
Leapfrog narrative	4 years	
Chronology	Present at all ages	6 years
End-at-high-point narrative	5 years	
Classic high-point narrative	6 years and older	

A summary of the findings relating to language use is provided in Table 10.

Table 10. Typical language behaviours relating to language use identified in the three groups of EAL pre-schoolers

Aspects		Typical behaviours identified		
		<i>Junior group</i>	<i>Middle group</i>	<i>Senior group</i>
Responses	Response to question	Percentage of total responses 31.6% – 80.8%	Percentage of total responses 68.4% – 90.6%	Percentage of total responses 52.7% – 78.6%
	Follow-up of own response	Percentage of total responses 0% - 20%	Percentage of total responses 0%- 13.5%	Percentage of total responses 3.8% – 36.3%
	Follow-up to adult's non-question response	Percentage of total responses 0% – 5.3%	Percentage of total responses 0	Percentage of total responses 2% – 6.5%
	No response	Percentage of total responses 3.8% – 68.4%	Percentage of total responses 0% – 14.8%	Percentage of total responses 0% – 5.8%
Mazes				Repetitions (occurring on average in 12% of utterances)
Connectives				Use of <i>And</i>
Communicative intents		- Greeting - Making choices - Closing a conversation	- Greeting - Predicting - Making choices - Closing a conversation	- Greeting - Commenting on an action - Describing an event - Predicting - Making choices - Giving reasons - Closing a conversation
Conversational devices		Attending to speaker	- Answering - Attending to speaker - Maintaining a topic	- Answering - Volunteering to communicate - Attending to speaker - Taking turns - Acknowledging speaker
Communicative functions		- Interactional - Personal - Informative	- Interactional - Personal - Informative - Heuristic - Imaginative	- Instrumental - Interactional - Personal - Informative - Heuristic - Imaginative
Appropriate responses		Percentage of total responses 26.3% – 86.2% (mean: 70%)	Percentage of total responses 76.9% - 93.8% (mean 85.8%)	Percentage of total responses 61.3% - 96% (mean 85.3%)
Conversational turns taken		57% – 100%	89.7% – 100%	85.7% – 100%
Personal narratives		(no typical responses identified)		

The profiles

The data in Tables 5, 7 and 10 were utilised to construct three profiles in order to make the results that were obtained accessible for use in collaborative practice between teachers and therapists in the pre-school:

- Detailed information for speech-language therapists – the comprehensive pre-school profile (CPP)
- Descriptive information for use by teachers – the essential classroom profile (ECP)
- Clinical risk indicators for specific language impairment – the profile of risk indicators (PRI). The PRI can be described as a set of danger signals (Nelson, 1998:290) that are of special significance for early identification of language impairment and secondary prevention of language learning disorders.

The study demonstrated, therefore, that language data from pre-schoolers could be applied to deliver utilisable outcomes for the collaborative practice between speech-language therapists and pre-school teachers. The profiles can be utilised for:

- Early identification of children at risk for language impairment and potential language learning disorders
- Targeting focus areas for classroom language activities in EAL classes in multilingual pre-schools
- Promoting collaborative practice in the pre-school team.

Discussion

The current research is viewed as being the first step in an attempt to meet the need regarding locally relevant information on the development of English as additional language in multilingual pre-schoolers and related language impairment evidenced by this population. The research results can only be optimally utilised, however, if both the strengths and the weaknesses of the study are carefully examined and considered

Evaluation of the research

With regard to data collection, the nature of the data ensured a wide-ranging view of language as advocated by Damico (1991) and subsequent authorities in the field of assessment of additional language. The data collection procedures that were utilised

in the current research included both structured conversation and direct elicitation. These procedures enabled the researcher to obtain comparable data for different ages, personalities, and cultures. Researchers have found that structured elicitation tasks produce more advanced child language than unstructured conversational sampling (Owens, 2001:433). Furthermore, the data collection was authentic and functional (Damico, 1993) in that it took place in the typical pre-school setting, during the school day, with activities typically shared by an adult and a learner in this setting.

As far as data processing is concerned, the processing of data for language content in particular, but also for mean length of utterance (MLU), produced a high level of variability in scores. Alternative data processing methods or procedures need to be investigated. Language content may be more profitably investigated by looking at the pre-schoolers' comprehension than at their language expression (Owens, 1999:183). In addition, the pre-schoolers' ability to learn a novel noun could provide valuable information on their knowledge of the category noun (Conti-Ramsden, 2002:253).

The pre-school participants represent a typical section of the pre-school population for a specific geographical area with a great number of pre-schools, so that the results are applicable to a large number of pre-schools with comparable demographics (Naudé, Meyer, De Jongh & Du Plessis, 2000). It is true that the relatively limited number of pre-school participants restricted the potential number of typical behaviours that could be identified. The number of typical behaviours that were identified, however, was sufficient to allow for a distinction between learners who exhibit language difference and those who are at risk for language disorder. Speech-language therapists and teachers may wish to follow the same procedures for obtaining language profiles for the learners in their particular setting, or those who work within the Pretoria inner city area may want to use the profiles in their ECD practice. However, they will need to bear in mind not only the materials and the procedures that were used in the current research, but also the conversational dyad. The language samples were obtained in conversations between pre-schoolers (the pre-school participants) and an adult (the research fieldworker).

The context of the data collection imposes certain limitations. Speech-language therapists and pre-school teachers are often advised to obtain language samples from young children in natural settings and specifically in conversation with peers (Ehren,

2000:219, Kuder 2003:218). In a multilingual setting such as that typically found in the urban areas of Gauteng, however, it is highly unlikely that a conversation with peers will be conducted only, or even mainly, in English. Children often devise their own peer group communication strategies. For this reason, the researcher heeded Kuder's (2003:218) advice: "The ideal of assessment in a natural setting must be balanced by the realities of the limitations".

Further research

Ideally, the risk indicators of language impairment should be subjected to stringent research to determine their sensitivity (the rate of identifying true cases of language impairment) and specificity (the rate of identifying true cases of typical language development), that is, the Profile of Risk Indicators (PRI) should avoid false identifications (Bishop & Leonard, 2000:22). Longitudinal studies and predictor analyses (Bishop & Leonard, 2000:24) would be an appropriate approach to investigating the validity (sensitivity and specificity) of the items on the PRI. These studies would, however, have to be conducted in every context where the specific language profile for pre-schools differs from the profile of the original sample population as described by Du Plessis and Naudé (2003).

In addition to obtaining profiles of typical language behaviour for various geographical areas, researchers in South Africa could also use the data from the studies suggested above to investigate the possibility of language-specific indicators of risk for Specific Language Impairment (SLI). If various languages exert different influences on the English used by the multilingual pre-schoolers, the PRI that is intended to be used for early identification of learners at risk for language impairment will also differ. The research for the purpose of determining the possibility of language-specific indicators of risk for Specific Language Impairment would fall within the domain of applied linguistics, and would take the form of descriptive studies.

The challenge for applied linguistics lies in accepting a bold invitation to collaborate with speech-language therapists in South Africa in this exciting venture. We eagerly await input from applied linguistics to

- Obtain data for various geographical areas

- Verify data for diverse language groups
- Investigate the relevance of a typical profile for different developmental stages.

This study also extends a challenge to ECD professionals in South Africa: They are challenged “to engage in a growth process prompted by an expanded research base ... coupled with appreciation of the expertise [they] have to offer” (Ehren & Ehren, 2001:234). Speech-language therapists and teachers in collaborative practice in multilingual South African pre-schools have at hand everything they need to provide the pre-schoolers in their care with the best possible opportunity for fulfilment of their academic and social potential. They can do this in an accountable and enjoyable way. This study is intended as a contribution toward that purpose.

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