CHAPTER 7

RESULTS AND DISCUSSION: LANGUAGE CONTENT

AIM:
To present and discuss the aspects of language *content* identified in the language behaviour of the pre-school participants, to distinguish the aspects of language content that appeared *typically* in the language production of the three age groups, and to evaluate the potential utility of this information by considering the results to be carried over to the *Profile*.

Language content produced by the pre-school participants

7.1. Introduction

The aspects of the language dimension of *content* that were identified in Chapter 4 as significant on account of their relationship to either language impairment or EAL, were investigated as they appeared in the language behaviour of the pre-school participants.

The first aspect of language content addressed in this chapter concerns two facets of the content of *verbs*. The use of *general all-purpose* (GAP) verbs was investigated to determine the potential variety of verb forms used by the pre-school participants to express activities and experiences. The use of *cognitive state verbs* was explored to ascertain whether the pre-school participants made use of these verbs to express their knowledge of mental events.

The main portion of this chapter deals with word counts. Besides the total number of words and the number of different words produced by each pre-school participant during the 20 minutes of conversation with the research assistant, separate counts of verbs produced and of nouns produced were also analysed. The purpose was to determine whether any representative range could be determined that could be proposed as a point of reference for typical language behaviour of EAL pre-schoolers in similar communicative contexts.

It should not be construed as the intention of this chapter to imply that language content refers only to words, and especially not that an indication of language content

can be derived from word counts. The aspects reported on in this chapter simply represent a limited number of accessible language behaviours relating to language content. Word counts (including the counts of GAP verbs and cognitive state verbs) 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.

For each subsection, the *description of the results* is followed by a *discussion* and a subsequent indication of the information to be carried forward to the *Profile.* The discussion, as in the case of language *form,* is intended to relate the results obtained to associated information in the literature.

7.2. Language content: verbs

The dimension of language concerned with rules governing the meaning or content of words or grammatical units is also known as *semantics* (Owens, 2001:475). Studies pertaining to semantic features in the language of children with specific language impairment have tended to concentrate mainly on the word level, particularly on the vocabulary diversity displayed by these children, although some researchers have begun to explore the semantic fields represented by verbs (Johnston, Miller & Tallal, 2001:350). Some semantic characteristics of verbs in the language samples of the EAL pre-schoolers are discussed first, followed by aspects of their vocabulary diversity.

7.2.1. General all-purpose (GAP) verbs

The literature provides examples of GAP verbs in the language production of typically developing young children and young children with SLI (Conti-Ramsden & Jones 1997). These lists of GAP verbs include the following monosyllabic words: *come, do, get, give, go, got, have, know, look, make, open, play, put, see, take, want*. The language samples examined in the current research did not contain as many examples of verbs used in a general all-purpose fashion, but the verbs that were found coincide to a large extent with entries in these lists. The following were identified as possible

GAP verbs in the conversation sample of the pre-school participants: *take, put, do, go* (Tables 7.1 and 7.2):

Table 7.1. Verbs identified as GAP verbs in the language sample of pre-school participants

Verb	General meaning deduced from context	Examples	N producing	Total productions
Take	Indefinite action with an object	(*What is she doing*?) Is take this (J3)	9 (J=3, M=3, S=3)	11
		Mommy is taking a cake (J4)		
		(*What did the doctor do*?) He's taking an injection (J4)		
		(*Why did it happen*?) This man is take this (J6)		
		And other one takes the simbas (M11)		
		Because another one, they take to me the sand (M13)		
		(*And what happened at the shop*?) They take, they take a bread (M13)		
		Take me in injection (M16)		
		He took the injection in here (S23)		
		And he take my stomach and do like this (S26)		
		(*What's this one doing*?) Is..is taking cake (S28)		
Put	Action upon a person (usually actions of others upon self)	My mommy is put me to doctor (J4)	6 (J=1, M=2,, S=3)	8
		He put me injection (m15)		
		Put me in another doctor (M16)		
		(Relating grisly murder) put him inside the house and just cut him (S23)		
		And they give me medicine…they put for me and then they give me and then I stop coughing (S24)		
		He put me this thing here (S29)		
		They put in the bandage (S29)		
		They put me a bandage (S29)		
Do	Perform	Is doing the birthday (J5)	3 (J=1, M=1, S=1)	3
		He did do me an injection (M17)		
		He do me like this (S27)		
Come of	Receive, have, experience	I come of my birthday party in the crèche (M14)	1 (M)	3
		(*Did you get any presents*?) No, I didn't come of the presents (M14)		
		(*Did your mother give you a present?*) No, I come of two cakes (M14)		

Key:
J=Junior group, M=Middle group, S=Senior group
N producing=number of participants who produced the specified verbs

The verbs *take, put* and *do* were used by participants in all three age groups. The use of *come of* was restricted to one participant only (participant 1 in the Middle group) and could therefore not be considered a GAP verb for the pre-school participants in general.

Observations during clinical activities at various schools and pre-schools in the urban area of Pretoria indicated that the expressions *go like this/that* and *do like this/that* seem to be in general use among young speakers of English. These expressions also appeared in the conversational language sample of the pre-school participants (Table 7.2).

Table 7.2. The verbs go/do produced by pre-school participants

Verb	General meaning deduced from context	Examples	N producing	Total N productions
Go like this/that	Perform action as demonstrated	Another man going like this (J10)	3 (J=1, M=1, S=1)	3
		When I go like this, it's sore (M14)		
		Go like that (S26)		
Do like this/that, do this/that	Perform action as demonstrated	Then I do this, it's sore (S23)	5 (S=5)	13
		He do like this (S26)		
		And he take my stomach and do like this (S26)		
		He do like that to me (S26)		
		They do like this (S26)		
		I was doing like that (S26)		
		And another one he do like that (S26)		
		They are doing like this (S27)		
		She do like this (S29)		
		You must do like this (S30)		
		Then I was up and I do like this (S30)		
		Then they do like this to me (S30)		
		Then I do like this to me (S30)		

Key:
J=Junior group, M=Middle group, S=Senior group
N producing=number of participants who produced the specified verbs

Go appeared in the language samples of one participant out of each age group, while the use of *do* was found only among the participants in the Senior group. A summary of the results for use of GAP verbs by the three groups of pre-school participants is provided in Table 7.3.

Table 7.3. Summary of the results for use of GAP verbs by the three groups of pre-school participants

Groups	N participants for each verb					
	Take	Put	Do	Come (of)	Go like	Do (like)
Junior	1	0	0	0	0	0
Middle	2	0	0	1	0	0
Senior	0	1	0	0	0	2

Key:
N participants = number of participants in a group who used a specific verb more than once.

From Tables 7.1, 7.2 and 7.3, it appears that GAP verbs did occur in the language samples of the participants, but for the most part as characteristic of specific individuals. No typical language behaviour relating to GAP verbs was identified for the three groups of pre-school participants.

7.2.2. Cognitive state terms

Cognitive state verbs form only one aspect of language content, but are regarded by some researchers as significant indicators of semantic development (Johnston *et al.*, 2001:355). The following cognitive state terms (Table 7.4) were identified in the language samples of the pre-school participants:

Table 7.4. Cognitive state verbs used by the pre-school participants

	I think	I guess	Let me think	I don't know	I don't know what…	I don't remember
Junior group						
n once	1			2		
n 1+				2		
Middle group						
n once	1			2		
n 1+				2		
Senior group						
n once		1	1	4	1	1
n 1+						

Key to Table 6.40
N once= number of participants in group who used a specific verb once
N 1+= number of participants in a group who used a specific verb more than once.

The routinised use of "I don't know", which was not counted as an instance of the category *cognitive state verbs* in research reported in the literature (Johnston *et al.,* 2001: 363), was included in Table 7.4 to illustrate the higher frequency of occurrence when compared to other cognitive state verb use. Even "I don't know", however, could not be regarded as appearing *typically* or even to a *noteworthy* extent in conversations between the EAL pre-schoolers and the research fieldworker.

Johnston, Miller and Tallal (2001:363) reported the use of the cognitive state verbs *know, think, understand, pretend,* and *remember* by pre-school children with typical language development. It might have been possible to elicit these verbs from the EAL pre-schoolers with specially designed strategies, but only *think, guess, know,* and *remember* appeared (and only infrequently) in the structured conversations recorded for the current research. The *act of pretending* was implied in utterances such as:

We are sleeping (= we pretend we are sleeping) (participant S 27, Senior group)

I lift my hands that I'm Superman (= to pretend that I'm Superman) (participant S 30, Senior group).

However, the verb *pretend* was not used. The verbs *think, guess, remember,* and *know* were all used to refer to the pre-school speaker's own cognitive state, not to the listener or a third party.

Children with SLI have been reported to use cognitive state verbs less frequently than children with typical language development (Johnston *et al*., 2001: 363). For EAL pre-schoolers in the multilingual urban context of the current study, however, this statement cannot serve as a clinical indicator, due to the infrequent use of cognitive state verbs by typically developing children in this population.

The semantic features of verbs were conjectured to be a promising area of inquiry to gain information about representative *content* aspects of the pre-school participants' language, but no behaviours typical of any age group could be identified. Although certain verbs were characteristically used by specific individuals, no information was

deemed sufficiently representative to be carried over to the *Profile*. However, since it would be important to know that low frequency of cognitive state verbs should *not* be used as an indicator of language disorder, the following note was made:

Profile summary 12: Cognitive state verbs

Group	*Typical behaviour (80%+of group)*
Junior group (4-0 to 4-11)	**80%+ of the participants in this age group did not use cognitive state verbs**
Middle group (5-0 to 5-11)	**80%+ of the participants in this age group did not use cognitive state verbs**
Senior group (6-0 to 6-11)	**80%+ of the participants in this age group did not use cognitive state verbs**

7.3. Word counts

The results for this section are presented in the same categories as those adopted in the discussion of the method for word counts (Chapter 4).

7.3.1. Total number of words and total number of different words (TNW and TDW), Type-token ratio (TTR)

While it seems obvious that EAL learners could have fewer lexical items in their English lexicon than English first language (L1) learners (Owens, 1999:111), there is no data available on the *typical* characteristics regarding TNW and TDW for the EAL population. An apparently limited TDW might seem to suggest a language impairment, whereas in fact it could be a typical phenomenon for this population. It was therefore important to determine the typical distribution. For the calculation of these word counts, only the words occurring in the conversation sample of each participant were used. The results are displayed in Table 7.5, as well as Figures 7.1 and 7.2.

Table 7.5. TNW, TDW and TTR for three age groups of pre-school participants

Group		TNW	TDW	TTR
Junior group	Total	705.00	330.00	
	Mean	70.50	33.00	0.47
	Median	47.00	29.50	0.57
	Range	8 – 161	3 – 77	0.19 - 0.88
	S D	57.53	24.11	0.22
	Proposed norm	X	X	X
Middle group	Total	963.00	494.00	
	Mean	96.30	49.40	0.51
	Median	102.50	53.50	0.53
	Range	43 – 143	23 – 65	0.37 – 0.69
	S D	36.26	13.22	0.09
	Proposed norm	23.8 – 168.8	22.96 – 75.8	0.33 – 0.69
Senior group	Total	2785.00	727.00	
	Mean	278.50	72.70	0.26
	Median	254.00	75.00	0.29
	Range	43 – 143	19 – 176	0.21 – 0.67
	S D	141.92	25.63	0.14
	Proposed norm	X	21.44- 123.96	X

Key: S D = standard deviation
X = representative range could not be determined

The scores for the Junior group were too widely distributed to allow for the calculation of a proposed typical distribution. When the single low score on TNW for members of the Senior group of participants was removed (Ehlers, 2005) and the formula *mean +/- 2SD* reapplied, the following results were obtained:

Mean TNW 278.5
Range 166 - 472
Standard deviation 119.5
Proposed typical distribution of TNW: 39.5 – 517.5

Although a TNW range could be calculated in this way, it was too wide to be of practical use. The suggested norms for the Middle group also seemed to be too wide when compared to the minimum and maximum scores that were obtained.

When the range of 10^{th} to 90^{th} percentile as suggested by Steyn, Smit, Du Toit and Strasheim (1994:127) was determined, more conservative figures were obtained (Table 7.6) but it is advised that these proposed norms be used with caution, as they may still be very wide.

Table 7.6. Comparison between two proposed norms for word counts in three groups of participants

Groups	Word count measurements					
	TNW		TDW		TTR	
	A	*B*	*A*	*B*	*A*	*B*
Junior	X	9-154	X	7-49	X	.30-.78
Middle	23.8 – 168.8	51-142	22.96 – 75.8	33-63	0.33 – 0.69	.45-.65
Senior	X	166-439	21.44-123.96	53-99	X	.21-.34

Key:
A = calculated as *mean – 2 standard deviations (SD) – mean + 2SD*
B = calculated as *10^{th} percentile – 90^{th} percentile*
X = representative range could not be determined

The developmental trend for both TNW and TDW, however, appears clearly in Figures 7.1 and 7.2.

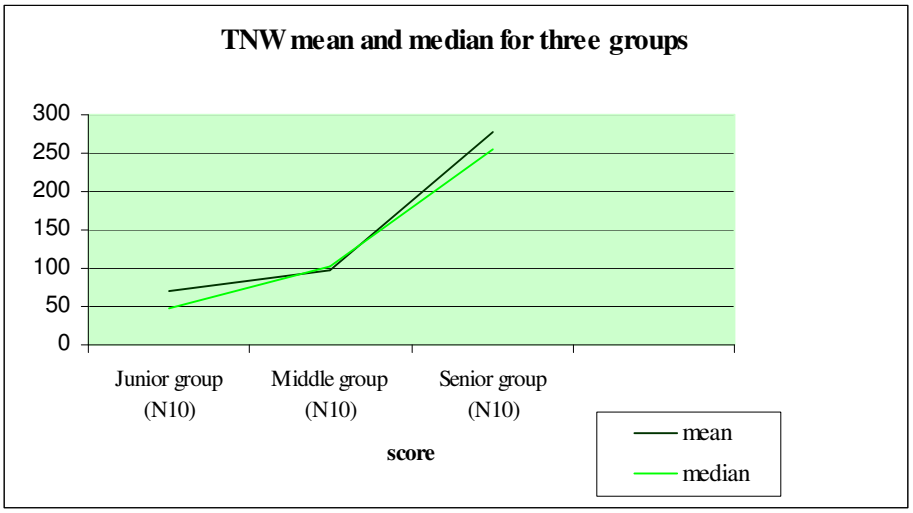

Figure 7.1. TNW means and medians for three age groups

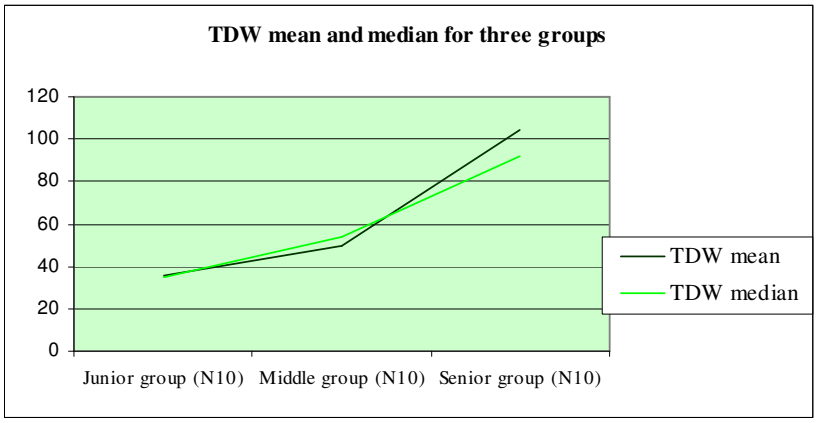

Figure 7.2. TDW means and medians for three age groups

For both TNW and TDW an increase with age was noted in the mean as well as the median (Figure 7.1 and Figure 7.2). This indicated that both general language proficiency and semantic diversity show development over time in this population, with an increase in the rate of development at the pre-school stage (age 6 to 6-11 years).

The range of scores for both TNW and TDW was widest for the Senior age group (6 to 6-11 years) and smallest for the Middle group (5 to 5-11 years). The Middle group seemed to be the most homogeneous group. This was also reflected in the scatter of scores for the three groups. Figure 7.3 illustrates the scatter of TNW scores for each age group separately.

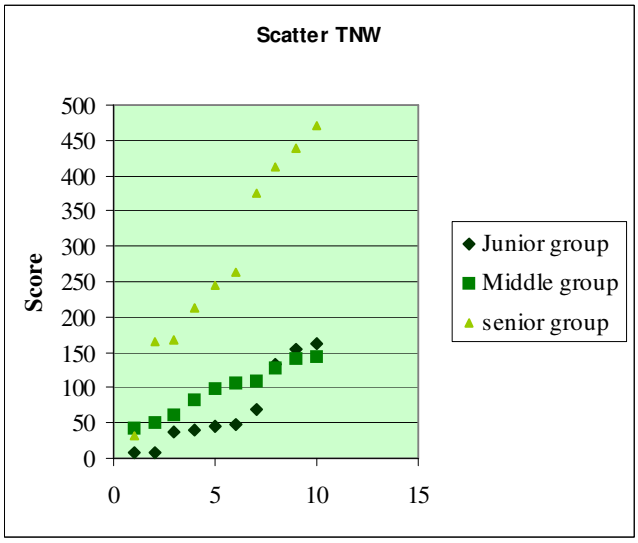

Figure 7.3. Scatter of TNW scores for three age groups

For the Junior group, the largest number of scores (5) was grouped around 40 – 65. The current data suggests that this would be the range within which the mean TNW score for a large population of this age (3 to 4 years) would be found.

For the Middle group, the TNW scores exhibited a fairly even spread from 40 to 144, with a relatively contained range. For this group, the mean TNW score of 96.3 is probably an indication of the mean score that would be found in a large population of this age.

For the Senior group, the largest number of scores (5) were grouped around 155 – 255. The current data suggests that this would be the range within which the mean TNW score for a large population of this age (4 to 5 years) would be found. However, a second grouping of four scores was found in the range 355 – 455, which explains the wide spread of scores indicated by the standard deviation.

The ratio of TDW to TNW showed a decrease with increase in age of the pre-school participants, reflecting the fact that the *total number* of words produced showed a greater increase with age than the *total number of different* words (Figure 7.4).

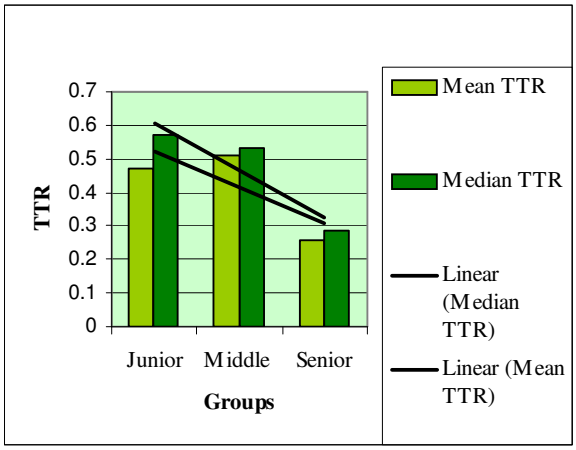

Figure 7.4. TTR means and medians for three age groups

Typical American English children between 2 and 8 years have been found to demonstrate TTRs of between 0.42 and 0.50 (Klee, 1992:28; Owens, 1999:192). The lower TTR (mean 0.26) of the group of participants aged 6 to 6-11 years (Senior group) may indicate that their vocabulary development lags behind their development

of general language proficiency. They may even be described as having a "restricted vocabulary" (Owens, 1999:184). However, this does not indicate a language impairment for these EAL pre-school learners, since it was the typical TTR found for this group. Although true representative ranges could only be determined for the Middle group and for TDW in the Senior group, it is noteworthy that the mean TNW for all groups was less than one third of the TNW reportedly produced by similar-aged groups of American English children within 20 minutes of conversation (Owens, 1999:192). The proviso, however, is that the expected TNW, TDW and TTR indicated below for the three age groups of pre-school EAL participants are valid for a conversation elicited by means of a specific picture stimulus (Minskoff, Wiseman & Minskoff, 1972) and a specific conversational map (Tönsing, 1998:17; Rollins, McCabe and Bliss, 2000).

The information regarding TNW, TDW and TTR to be carried over to the *Profile* will be the following:

Profile summary 13: TNW, TDW, TTR

Group	***Range of occurrence representative of group (10^{th} – 90^{th} percentile) and mean for group***		
	TNW	***TDW***	***TTR***
Junior group (4-0 to 4-11)	**9 - 154 Mean TNW 70.5**	**7 - 49 Mean TDW 33.0**	**.30 - .78 Mean TTR 0.47**
Middle group (5-0 to 5-11)	**51 - 142 Mean TNW 96.3**	**33 – 63 Mean TDW 49.4**	**.45 - .65 Mean TTR 0.51**
Senior group (6-0 to 6-11)	**166 - 439 Mean TNW 278.5**	**53 - 99 Mean TDW 72.7**	**.21 - .34 Mean TTR 0.26**

7.3.2. Total number of verbs and total number of different verbs (TNV and TDV)

Children with SLI have been found to use fewer verbs and fewer different verbs than typically developing children (Conti-Ramsden & Jones, 1997). Data for the *typical EAL population* is therefore required, to serve as point of reference for determining what would constitute a limited verb usage in this population. For the calculation of TNV and TDV in the population included in the current research, only the verbs occurring in the *conversation sample* of each participant were used.

TNV

The total number of verbs (excluding auxiliaries and copula) produced by the pre-school participants during the conversation with the research assistant were counted and the mean calculated for each age group. The results are presented in Table 7.7.

Table 7.7. Mean number of verbs produced by pre-school participants.

Group	Mean	SD	Min	Max	Mean –2SD to mean +2SD
Junior	11.6	7.7	2	26	*No representative range could be determined*
Middle	16.7	6.1	8	30	4.5 – 28.9
Senior	43.9	22.3	8	76	*No representative range could be determined*

No representative range calculated by means of standard deviation could be determined for the Junior and Senior groups, since the scores were too widely distributed, as may be seen in the scatter of scores for each group (Figures 7.5 to 7.7).

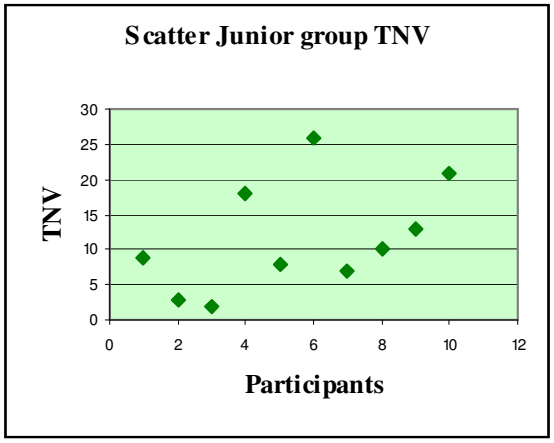

Figure 7.5. Scatter of TNV scores for Junior group

It is clear from Figure 7.5 that the TNV scores for the Junior group were too widely scattered to permit determination of a representative range by means of the standard deviation. The use of the range between the 10th and 90th percentile (Steyn *et al.*, 1994:127) was indicated.

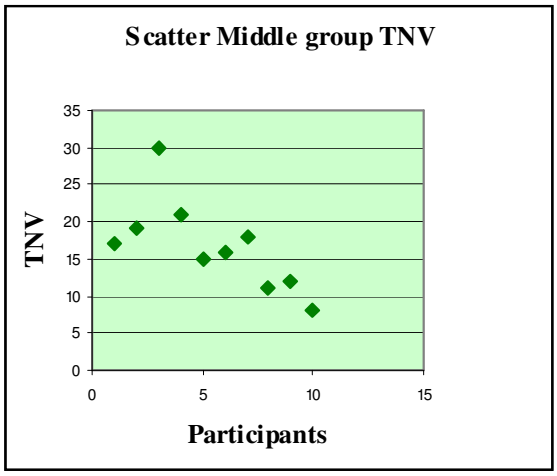

Figure 7.6. Scatter of TNV scores for Middle group

Figure 7.6 shows a single exceptionally high TNV score for the Middle group. Although a representative distribution could be determined from the scores as illustrated in Figure 7.5, it would also be possible to eliminate the highest score and then calculate the TNV again (Ehlers, 2005).

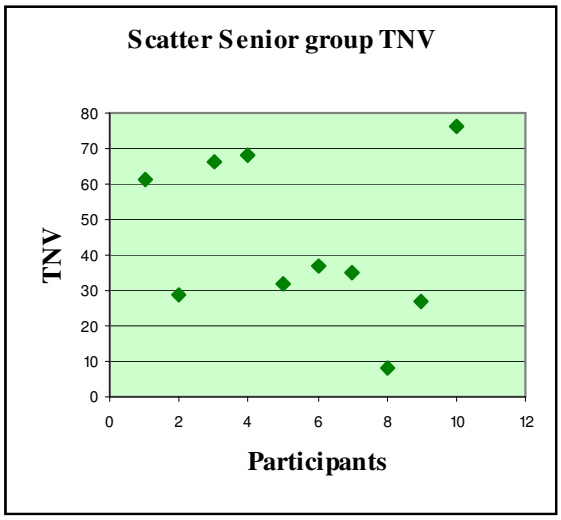

Figure 7.7. Scatter of TNV scores for Senior group

It was possible to eliminate the single lowest score and the single highest TNV score for the Senior group (Figure 7.7) and re-calculate a typical distribution (Ehlers, 2005). A more realistic range was obtained for the Middle group, but the range for the Senior group probably remains too wide to be of practical use. When the range of 10^{th} to 90^{th} percentile as suggested by Steyn *et al.* (1994:127) was determined, more conservative

figures were obtained but, as in the case of TNW, TDW and TTR, it is advised that these proposed norms be used with caution, as they may still be very wide. The modified results for TNV for all three age groups of participants are presented in Table 7.8.

Table 7.8. Modified TNV for pre-school participants

Group	Mean	Min	Max	Mean –2SD to Mean +2SD	10th to 90th percentile
Junior	11	2	26	*No representative range could be determined*	*3 – 21*
Middle	47.89	8	21	6.86 – 23.58	11 – 21
Senior	44.38	27	68	9.44 – 79.34	27 - 61

TDV

The mean number of different verbs produced in the conversation sample for each group of participants is indicated in Table 7.9.

Table 7.9. Mean number of different verbs produced by the three groups of pre-school participants

Group	Mean	SD	Min	Max	Mean –2SD to mean +2SD
Junior	7.7	4.4	1	14	*No representative range could be determined*
Middle	10.1	2.6	5	13	4.9 – 15.3
Senior	23.1	12	5	38	*No representative range could be determined*

Once again, it was necessary to investigate the scatter of TDV scores for the three groups of participants (Figure 7.8 to Figure 7.10).

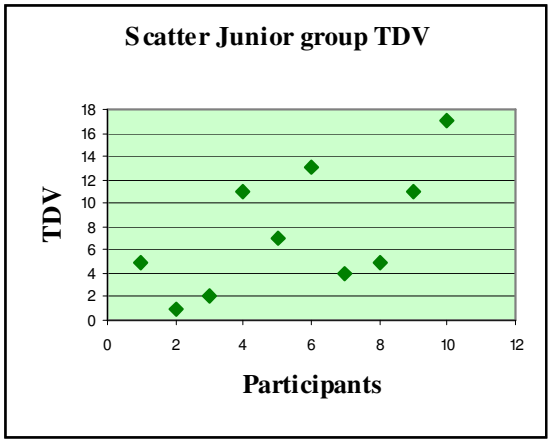

Figure 7.8. Scatter of TDV scores for Junior group

It appears (Figure 7.8) that the TDV scores for the Junior group were too widely scattered to determine a truly representative range with the use of the standard deviation.

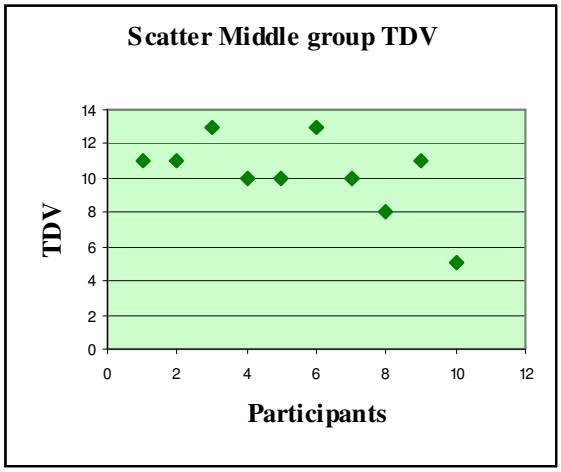

Figure 7.9. Scatter of TDV scores for Middle group

Figure 7.9 shows one low TDV score for the Middle group, which could be eliminated to allow for re-calculation of the mean and standard deviation (Ehlers, 2005).

The modified results for the Middle group were then:

Mean TDV	10.78
Standard deviation	1.56
Representative range of TDV	7.66 - 13.9

Since this latter range represents more or less the total range from minimum to maximum score, it is realistic but may need to be refined by further research.

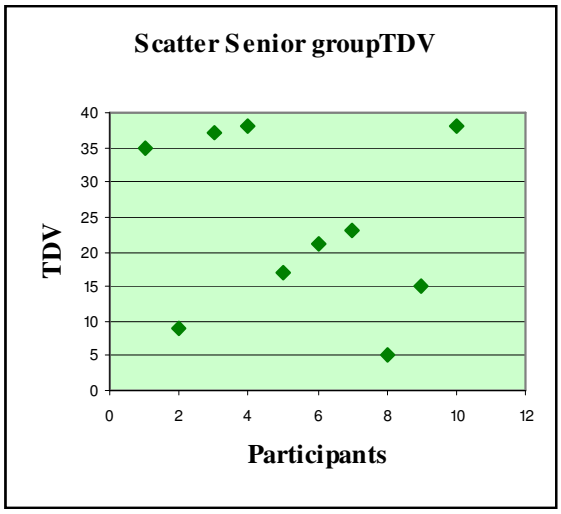

Figure 7.10. Scatter of TDV scores for Senior group

As in the case of the Junior group, the TDV scores for the Senior group were too widely scattered (Figure 7.10) to allow for the calculation of a representative range with the use of the standard deviation. The use of the range from the 10th to the 90th percentile (Steyn *et al.*, 1994:127) was once again indicated. The modified results for TDV for all three age groups of participants are presented in Table 7.10.

Table 7.10. Modified TDV for pre-school participants

Group	Mean	Min	Max	Mean –2SD to mean +2SD	10th to 90th percentile
Junior	7.7	1	14	*No representative range could be determined*	2 – 13
Middle	10.1	5	13	4.9 – 15.3	8 – 13
Senior	23.1	5	38	*No representative range could be determined*	9 - 38

To allow a more equitable comparison between the three age groups of pre-school participants, the number of different verbs (TNV) was expressed as a percentage of total number of verbs (TNV) The results of these calculations are displayed in Table 7.11.

Table 7.11. Mean TDV expressed as percentage of mean TNV for each age group of participants

Group	Mean TNV	Mean TDV	Mean TDV as % of mean TNV
Junior	11.6	7.7	66.4
Middle	16.7	10.1	60.5
Senior	43.9	23.1	52.6

Some interesting observations could be made on the basis of the information in Table 7.11. When the trend lines appearing in Figures 7.11 and 7.12 were compared, a developmental trend was observed for both TNV and TDW, while TDV expressed as percentage of TNV declined over age. This means that the younger EAL speakers exhibited a larger proportion of different verbs in their total corpus of verbs than the older EAL speakers. This statement, however, has to be interpreted against the much lower TNV for the two younger groups in comparison to the TNV for the Senior group. When verbs are used infrequently, even a relatively small corpus of verbs may exhibit a low frequency of distribution per entry and consequently a large proportion of use of different verbs.

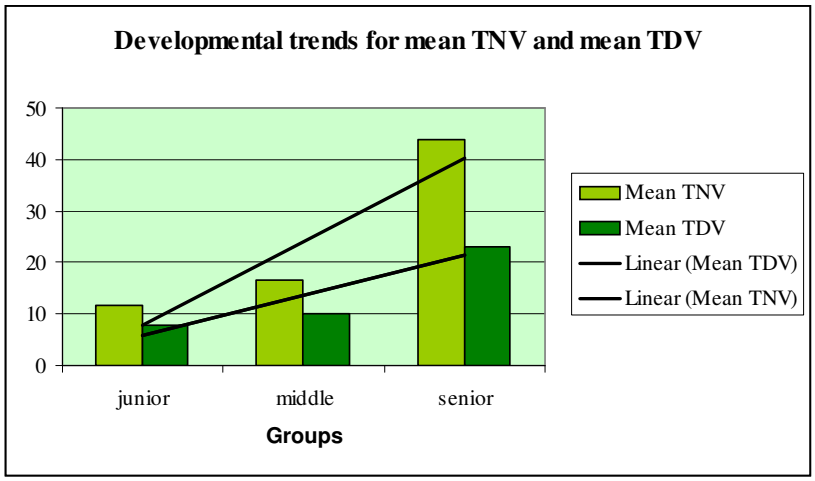

Figure 7.11. Developmental trends in mean TNV and mean TDV

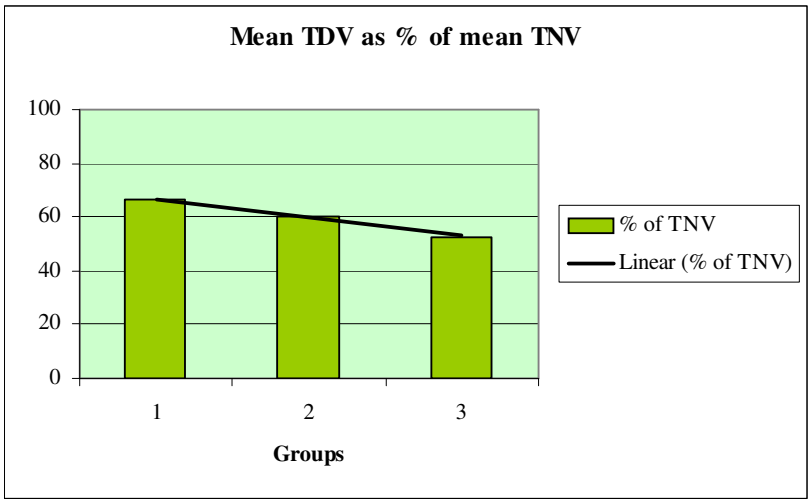

Figure 7.12. Developmental trend for mean TDV expressed as percentage of mean TDV

When TNV was expressed as percentage of the total number of words produced (TNW), a developmental trend was observed in the increase in mean TNV as well as mean TNW (Figure 7.13), while the mean TNV as percentage of TNW remained virtually the same over the three age groups (Figure 7.14). It appeared, therefore, that the percentage of words consisting of verbs (auxiliaries and copula excluded) remained the same with an increase in age and in language development. The cautionary observation concerning the apparent large proportion of different verbs in the language sample of participants in the Junior group is justified by this finding.

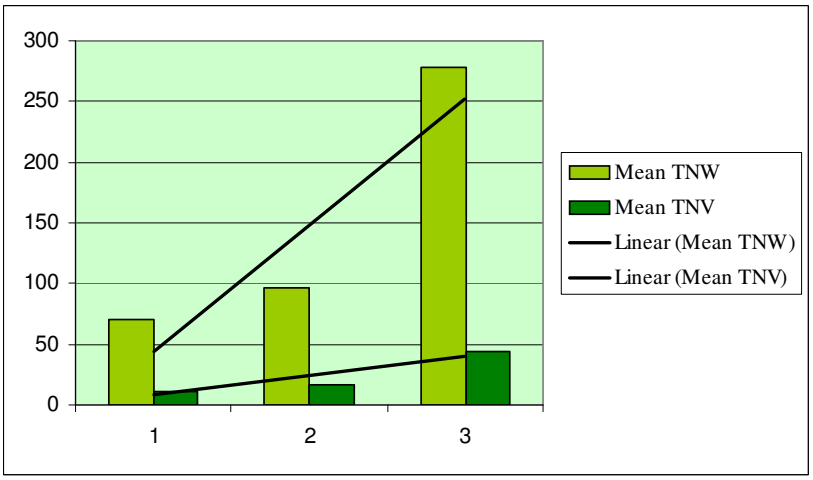

Figure 7.13. Comparison between developmental trends in mean TNW and mean TNV for three age groups

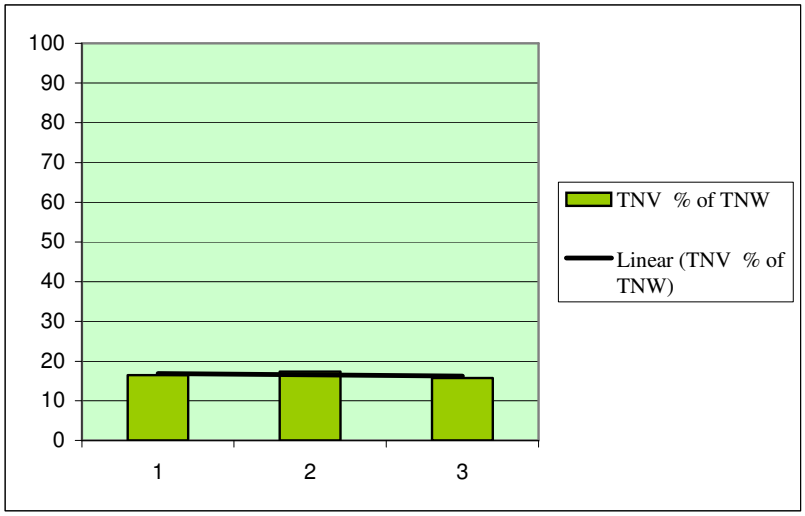

Figure 7.14. Mean TNV expressed as percentage of mean TNW over three age groups

7.3.3. Total number of nouns (TNN)

Although the noun system of English seems to present fewer difficulties to children with SLI than has been found for verb structures (Conti-Ramsden & Windfuhr, 2002:19), it is nevertheless of some interest to researchers, who have studied the development of lexical and grammatical categories in children with normal language development (Nelson,1973), bilingual children (Bland-Stewart & Fitzgerald, 2001) and children with SLI (Conti-Ramsden,2002). Conti-Ramsden & Jones (1997) compared the total number of nouns produced to the total number of words produced by children with SLI. They report that children with SLI produce proportionately more nouns, perhaps because they produce fewer verbs (Conti-Ramsden & Jones, 1997:1298). The TNN count was included in this section to obtain a norm for the EAL learners in this regard.

As in the case of verbs (TNV and TDV), the TNN scores of the pre-school participants were divergent (Figures 7.15 to 7.17).

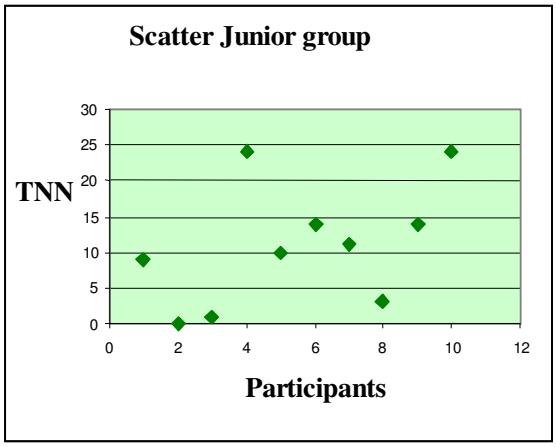

Figure 7.15. Scatter of TNN scores for Junior group

The participants in the Junior group exhibited a very wide scatter of scores (Figure 7.15) which made it impossible to determine a representative range of TNN scores with the use of the standard deviation. The scores for the Middle group were distributed in a narrower range than for Junior group (Figure 7.16).

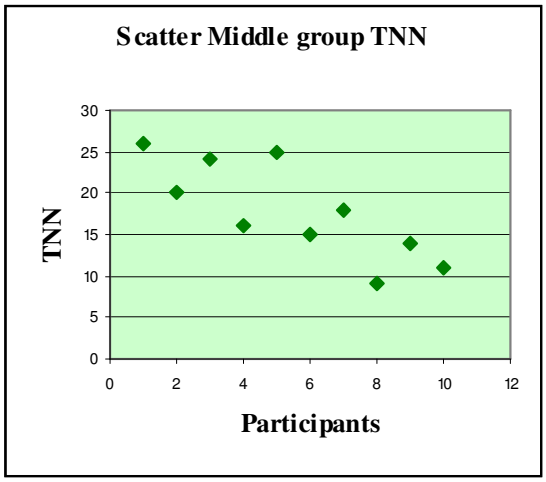

Figure 7.16. Scatter of TNN scores for Middle group

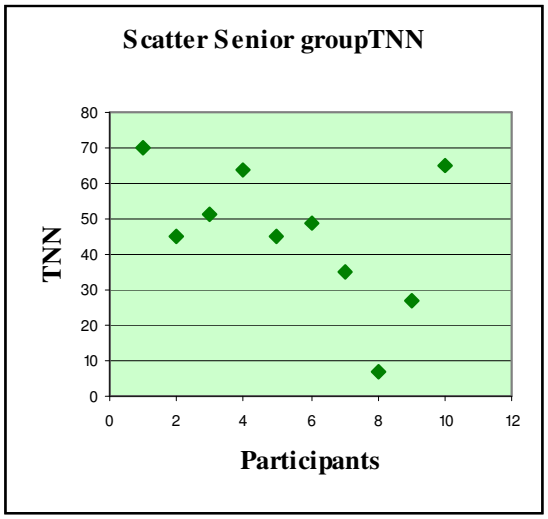

Figure 7.17. Scatter of TNN scores for Senior group

In the case of the Senior group (Figure 7.17), one very low score was found, which could be eliminated (Ehlers, 2005) before calculating the representative distribution of TNN scores. The possible alternatives for suggested representative ranges of TNN scores for the three groups of participants appear in Table 7.12.

Table 7.12. Representative range of TNN scores for three groups of participants

Group	Mean	SD	Min	Max	Mean-2SD to Mean+2SD	10th to 90th percentile
Junior	11.2	8.4	0	24	*No representative range could be identified*	*1 - 20*
Middle	17.8	5.9	9	26	6 – 29.6	11 - 25
Senior	45. 8	19.1	7	70	7.6 - 84	27 - 65
Senior modified	50.11	14.26	27	70	21.59 – 78.63	

When the range was calculated with the formula *mean–2SD* – *mean*+2SD, a more realistic range was obtained for the Senior group when the lowest score was eliminated, but it is obvious from Table 7.12 that both the range proposed for the Middle group and the modified range for the Senior group go beyond the maximum and in the case of the Middle group also beyond the minimum scores obtained by the pre-school participants. These figures can consequently not be regarded as representative of the TNN produced by these pre-school participants. The range between the 10th and the 90th percentile (Steyn *et al.*, 1994:127), which represents the

scores obtained by 80% of each age group, would therefore be more appropriate in this case as well.

For the purpose of comparison between groups and between representation of lexical classes (nouns and verbs), the TNN as such is of less interest than the TNN expressed as a percentage of the TNW. When TNN was calculated as percentage of total number of words produced, the results depicted in Table 7.13 were obtained.

Table 7.13. TNN calculated as percentage of TNW for three groups of participants

Group	Mean TNW	Mean TNN	TNN % of TNW
Junior	70.5	11.2	15.9
Middle	96.3	17.8	18.5
Senior	278.5	50.11	18

As in the case of TNV, a developmental trend was to be seen in the increase in total number of words as well as total number of nouns with increase in age (Figure 7.18), but the percentage of TNW made up of nouns remained relatively unchanged (Figure 7.19). The EAL pre-schoolers appeared to be acquiring lexical items from various categories at a comparatively similar rate.

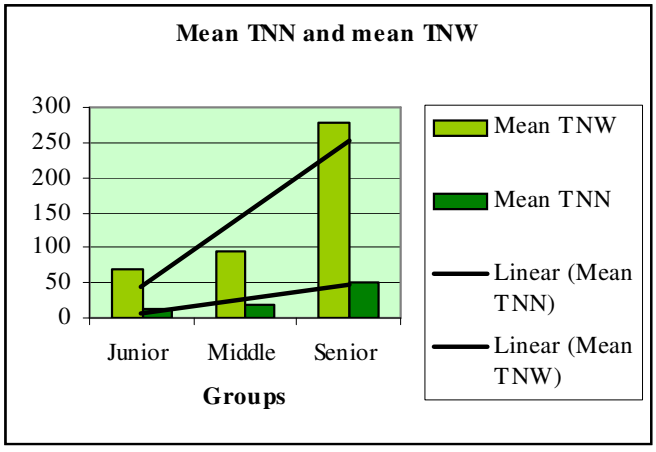

Figure 7.18. Developmental trends in TNN and TNW for three age groups

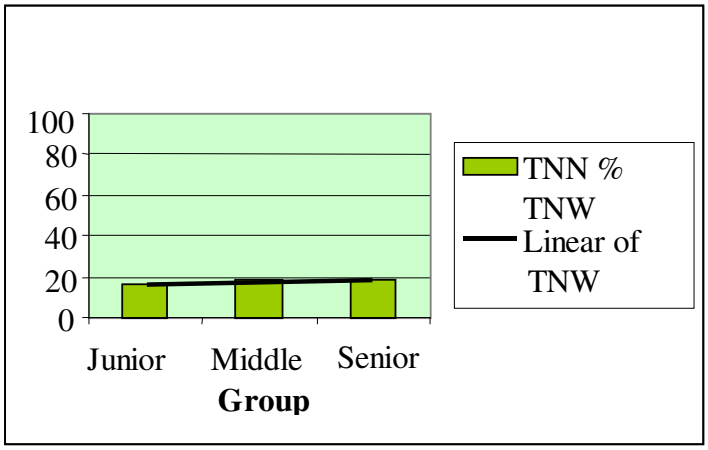

Figure 7.19. Developmental trend of TNN expressed as percentage of TNW for three age groups

Research reported in the literature appears to demonstrate mostly that there are individual differences in the lexical development of young children, with respect to both the size and the content of the lexicon (Hoff, 2005:180). However, most of the work on individual differences in children's lexical development has focused on vocabularies at the 50-word mark (Nelson, 1973; Hoff, 2005: 154). Some children acquire a higher percentage of nominals than others but in general children acquire more nominals than action words in the early stages of language development (Hoff, 2005: 155).

When the percentages of the total number of words comprising verbs and nouns were compared for the three groups of participants (Figure 7.20), the percentage verbs was slightly higher than the percentage nouns in the language production of participants in the Junior group, but this order was reversed in the Middle group. The percentage verbs and nouns was approximately the same in the language production of participants in the Senior group. In all cases the difference between nouns and verbs as well as the difference between the age groups did not amount to more than 2.5%. Despite the diversity inlexical development found by researchers and discussed by Hoff (2005:180), and also the wide scatter of lexical scores depicted in Figures 7.8 to 7.10 and 7.15 to 7.17, the EAL pre-school participants demonstrated overall a steady developmental increase in both the numbers of nouns and verbs in their lexicons, with no preference for either of these lexical categories.

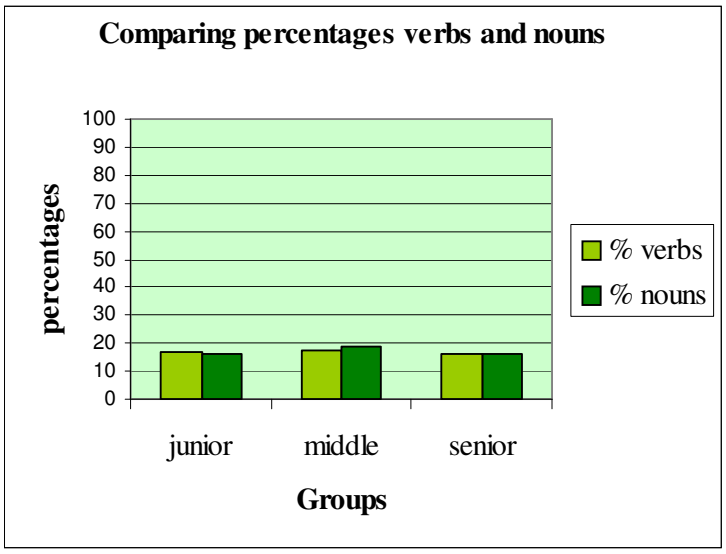

Figure 7.20. Percentages nouns and verbs in the total number of words produced by three groups of participants

Children's language experience, including the amount of language they hear, the nature of the language they hear and to what extent the language interest is related to their focus of attention, affects their lexical development (Hoff, 2005: 158 – 160). The measure of correspondence between the age groups with regard to their lexical development in EAL may be related to the fact that these participants were all acquiring English in the same pre-school setting.

The information regarding TNV, TDV and TNN to be carried over to the *Profile* will be the following:

Profile summary 14: TNV, TDV, TNN

Group	***Range of occurrence representative of group (10^{th} to 90^{th} percentile)***		
	TNV	**TDV**	**TNN**
Junior group (4-0 to 4-11)	**3- 21**	**2 – 13**	**1 – 20**
Middle group (5-0 to 5-11)	**11 – 21**	**8 – 13**	**11 – 25**
Senior group (6-0 to 6-11)	**27 - 61**	**9 - 38**	**27 - 65**

These ranges will only be relevant for the context in which the word counts were carried out, namely a conversation elicited by means of the conversational map to

invite personal experience narrative (in this case, the topics were *going to the doctor/ my pets* - Tönsing, 1998:17; Rollins *et al.*, 2000).

The information regarding mean TNV and mean TNN as percentages of TNW will also be carried over to the *Profile*:

Profile summary 15: Mean TNV and mean TNN as percentage of mean TNW

Group	*Mean TNV as percentage of mean TNW*	*Mean TNN as percentage of mean TNW*
Junior group (4-0 to 4-11)	**15.9%**	**16.5%**
Middle group (5-0 to 5-11)	**18.5%**	**17.3%**
Senior group (6-0 to 6-11)	**18%**	**18%**

Further research is required to determine whether these percentages apply for more general conversation contexts between adults and EAL pre-schoolers.

7.4. Conclusion

Although the semantic features of verbs were initially regarded as a potential source of information about representative *content* aspects of the pre-school participants' language, no behaviours typical of any age group could be identified. However, it was noted that low frequency of cognitive state verbs in the specific conversational context should *not* be used as an indicator of language disorder in this population, since more than 80% of all participants did not use cognitive state verbs in their conversations.

The size of the range for all word counts was smallest for the Middle group and largest for the Senior group. The Middle group of pre-school participants appeared to be the most homogeneous group with regard to the words represented in their language samples.

These results, although presented with a word of caution because of the diversity encountered, may yet be of value in planning assessment directed at determining the possible presence of atypical language *content* in EAL pre-schoolers.

7.5. Summary

The dimension of *language content* was examined by determining the number of words and the respective numbers of two different word classes (verbs and nouns) in the language produced by the EAL pre-school participants. The word counts in each case showed a wide scatter of scores for participants in the various age groups. These scores were mostly too widely scattered to allow the determination of a representative range with the formula *mean –2SD to mean +2SD*. However, the clear developmental trends that appeared justified the transfer of information to the *Profile* regarding the range representing 80% of the participants in each age group (10^{th} to 90^{th} percentile). For the purpose of comparison between groups and between representation of lexical classes (nouns and verbs), the TNV and the TNN were expressed as a percentage of the TNW.

The results with respect to typical language behaviour in this section are summarized in Table 6.14. The size of the range for all word counts is provided in brackets in each case.

Table 7.14. Summary: Representative ranges of language behaviours relating to *language content* identified in EAL pre-schoolers

Word counts/ratios		**Means and representative ranges identified**		
		Junior group	*Middle group*	*Senior group*
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	***Mean TNV as percentage of mean TNW***	16%	19%	18%
	Mean TNN as percentage of mean TNW	17%	17%	18%

CHAPTER 8

RESULTS AND DISCUSSION: LANGUAGE USE EVIDENCED BY THE EAL PRE-SCHOOL PARTICIPANTS

AIM:
To present and discuss the aspects of language *use* identified in the language behaviour of the pre-school participants, to distinguish the aspects of language use (relating to intent or functions of communication, rules of conversation and narratives, and adapting to conversation partners or contexts) that appeared *typically* in the language production of the three age groups and to evaluate the potential utility of this information by considering the results to be carried over to the *Profile*.

Language use demonstrated by the pre-school participants

8.1 Introduction

The aspects of the language dimension of use or pragmatics (Owens, 2001:474) that were identified in Chapter 4 as significant on account of their relationship to either language impairment or EAL, were investigated as they appeared in the language behaviour of the pre-school participants. The results are presented below, together with a discussion of each set of results. In accordance with the areas of pragmatic behaviour put forward by the American Speech-Language-Hearing Association ([ASHA], 1990) and indicated in Figure 1.3 (Chapter 1), the areas to be discussed include using language for various functions, adapting to the listener, and adhering to conversational and narrative conventions.

8.2 Variety of responses/spontaneous utterances produced

Conversational rules or conventions include turn taking, responsivity to the conversational partner, and appropriate conversational behaviour (American Speech-Language-Hearing Association [ASHA] 1990). The first section of this analysis considers the nature of the utterances produced as conversational turns by the pre-school participants, in an attempt to determine the variety of response types or spontaneous utterances that might be regarded as produced typically by EAL pre-schoolers during a conversation with a speech-language therapist in the pre-school

setting. The conversations between the pre-school participants and the research fieldworker provided the data for this analysis.

Although the analysis focused on the pre-school participants, it was necessary to first note the adult's turn as a question, a command or instruction, the presentation of a visual stimulus, or a response to the child's utterance. Only then could the utterance/s in the child's conversational turn be categorised. A set of categories was devised on the basis of a preliminary review of all the language samples obtained from the pre-school participants, and on discussions of conversation behaviour in the literature (Hoff, 2005:266-267; Owens, 2001:154-157; Owens, 1999:279-281). The categories utilised for this analysis, and the abbreviations to be used in the discussion, are the following:

SU	spontaneous initiating utterance (initiating a conversation or a new topic)
VSR	response to visual stimulus (picture)
QR/CR	response to question/command/instruction
Cf	confirmation of information requested
Sf	spontaneous follow-up by child of own response
FR/ER	follow-up response to adult's reaction, or response to encouragement, interjection, acknowledgement of speaker produced by adult
NR	no response or no attempt to maintain conversation.

These responses or spontaneous utterances were regarded as positive attempts by the pre-school participants to maintain the conversation, with the exception of NR, which indicated failure to respond to the adult's conversation initiatives. Table 8.1 displays the total number of participants in each age group who produced more than one example of each type of response.

Table 8.1. Number of participants in each group producing more than one example of each type of response

Group	Type of response						
	SU	*VSR*	*QR/CR*	*Cf*	*Sf*	*FR/ER*	*NR*
Junior	0	1	9	0	5	2	5
Middle	1	0	10	0	2	0	6
Senior	1	1	10	2	9	7	5

Almost all of the pre-school participants (the exception being one member of the Junior group) produced responses to the questions or instructions of the research fieldworker (QR/CR). This may therefore be regarded as typical behaviour for these pre-school EAL learners. For participants in the Senior group, spontaneous follow-up of own responses (Sf) was also found to be typical, while following up non-question utterances of the adult partner (FR/ER) occurred to a noteworthy extent. Not yielding a response to follow on to the adult's turn (NR) was found to be noteworthy behaviour for all groups of pre-school participants. Conversational behaviour by the pre-school participants was therefore characterised by both participatory and to a lesser extent non-participatory conduct.

Only one participant in each of the Junior and Senior groups, and none in the Middle group, produced more than one conversational turn that was a direct response to a visual stimulus (VSR). The low frequency of occurrence of the category VSR means that the repeated use of a visual stimulus (picture) to elicit conversation was typically not required.

A comparison of the total number of participants producing one or more responses in these four categories, and also the mean number of responses produced in the respective categories, yielded the following (Figures 8.1 and 8.2):

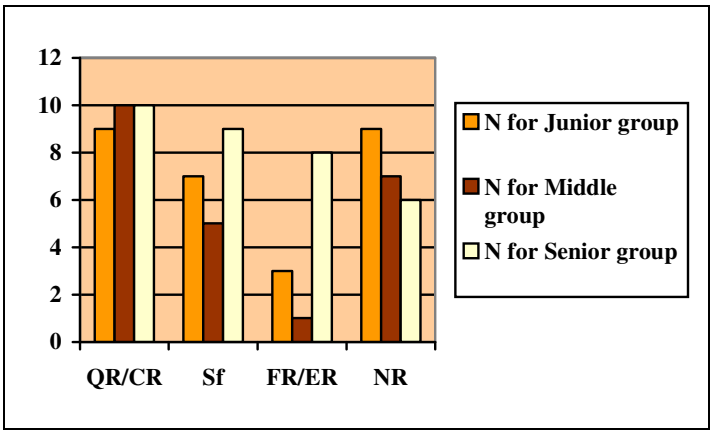

Figure 8.1. Number of participants in each group for four response categories

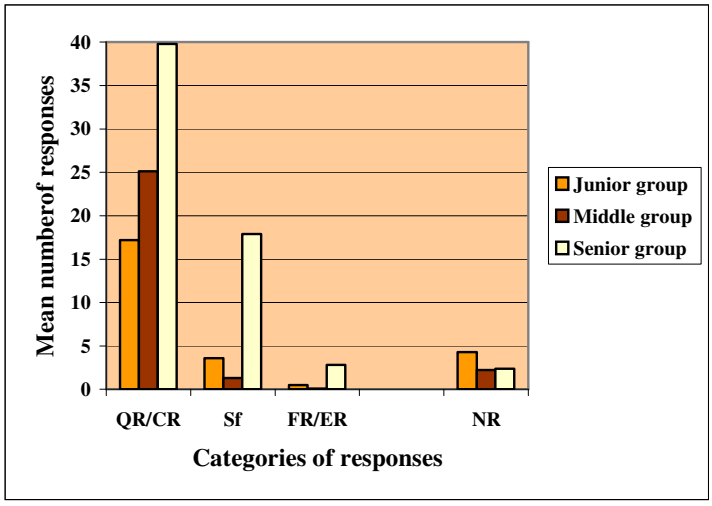

Figure 8.2. Mean number of responses in four categories

From the visual representation (Figure 8.1) it is obvious that the Senior group has the largest number of participants in the three categories describing a positive response in the conversation (sharing this position with the Middle group in the category QR/CR), and the smallest number of participants delivering No Response (NR). From a developmental perspective, the positive response types follow a generally increasing trend, while No Response shows a decline. The mean number of responses in each category (Figure 8.2) mirrors the pattern displayed by the number of participants in each category (Figure 8.1) and thereby confirms the developmental pattern.

When considering the information to be carried over to the Profile, it is obvious that an indication of the percentage of responses in each category (calculated as percentage of the total number of responses produced by each participant) might provide information that could more easily be generalised than the number of responses per se. Tables 8.2 to 8.4 display the percentages for the three groups of participants, and for the categories identified as producing typical or noteworthy behaviour.

Table 8.2. Types of responses calculated as percentage of total number of responses for Junior group

Participant no.	Total responses	QR/CR	Sf	FR/ER	NR
J1	26	96.2%	0%	0%	3.8%
J2	6	0%	0%	0%	100%
J3	19	31.6%	0%	0%	68.4%
J4	38	73.7%	13.2%	5.3%	2.6%
J5	25	48%	20%	0%	28%
J6	38	50%	39.5%	5.3%	2.6%
J7	26	80.8%	3.8%	0%	15.4%
J8	24	50%	12.5%	0%	37.5%
J9	26	88.5%	3.8%	0%	3.8%
J10	36	72.2%	16.7%	2.8%	0%
Sum	264	591	109.5	13.4	262.1
Mean	26.4	59.1	10.95	1.34	26.21
SD	9.66	29.12	12.47	2.26	33.79
Range		0% – 96.2%	0% – 39.5%	0% – 5.3%	2.6% - 100%

SD = standard deviation

Table 8.3. Types of responses calculated as percentage of total number of responses for Middle group

Participant no.	Total responses	QR/CR	Sf	FR/ER	NR
M1	24	87.5%	4.2%	0%	0%
M2	29	89.7%	0%	0%	10.3%
M3	37	83.8%	13.5%	0%	0%
M4	19	68.4%	26.3%	0%	0%
M5	53	90.6%	0%	1.9%	7.5%
M6	31	90.3%	3.2%	0%	6.5%
M7	32	96.9%	0%	0%	3.1%
M8	24	87.5%	0%	0%	12.5%
M9	2	81.5%	0%	0%	14.8%
M10	17	58.8%	5.9%	0%	29.4%
Sum	293	835	53.1	1.9	84.1
Mean	29.3	83.5	5.31	0.19	8.41
SD	10.27	11.49	8.53	0.60	9.10
Range		68.4% – 90.6%	0% – 26.3%	0% – 1.9%	0% – 29.4%

SD = standard deviation

Table 8.4. Types of responses calculated as percentage of total number of responses for Senior group

Participant no.	Total responses	QR/CR	Sf	FR/ER	NR
S1	67	61.2%	26.9%	9%	0%
S2	57	71.9%	12.3%	0%	12.3%
S3	88	54.5%	42%	2.3%	1.1%
S4	91	52.7%	36.3%	4.4%	0%
S5	51	68.6%	25.5%	2%	3.9%
S6	65	67.7%	24.6%	6.2%	0%
S7	56	78.6%	12.5%	5.4%	3.6%
S8	31	64.5%	0%	6.5%	29%
S9	52	90.4%	3.8%	0%	5.8%
S10	76	39.5%	52.6%	7.9%	0%
Sum	634	649.6	236.5	43.7	55.7
Mean	63.4	64.96	23.65	4.37	5.57
SD	18.17	14.24	16.85	3.18	9.10
Range	31-91	39.5%-90.4%	0%-52.6%	0%-9%	0%-29%

SD = standard deviation

When the formula mean – 2SD to mean + 2SD was applied, the wide distribution of percentage scores made it impossible to determine representative ranges for the Junior group, and for all categories except QR/CR in the Middle and Senior groups (Tables 8.2 to 8.4). Once again, two possibilities were considered. The extreme values could be removed (Ehlers, 2005) and the formula mean +/-2SD reapplied, or the typical range could be calculated as between the 10^{th} and 90^{th} percentiles (Steyn *et al.*, 1994:127). As can be seen in Tables 8.5 to 8.7, the only way to determine a range that included 80% of the participants in each category for each age group was to use 10^{th} percentile to 90^{th} percentile.

Table 8.5. Representative range for Junior group regarding percentage of utterances in various categories

Category	Mean – 2SD to mean +2SD	Lowest score removed: Mean – 2SD to mean +2SD	10^{th} percentile to 90^{th} percentile
QR/CR	X	X	31.6% – 80.8%
Sf	X	X	0% - 20%
FR/ER	X	X	0% – 5.3%
NR	X	X	3.8% – 68.4%

SD = standard deviation

Table 8.6. Representative range for Middle group regarding percentage of utterances in various categories

Category	Mean – 2SD to mean +2SD	Lowest score removed: Mean – 2SD to mean +2SD	10th percentile to 90th percentile
QR/CR	X	70.2% – 99.8%	68.4% – 90.6%
Sf	X	X	0%- 13.5%
FR/ER	X	0	0
NR	X	X	0% – 14.8%

SD = standard deviation

Table 8.7. Representative range for Senior group regarding percentage of utterances in various categories

Category	Mean – 2SD to mean +2SD	Lowest score removed: Mean – 2SD to mean +2SD	10th percentile to 90th percentile
QR/CR	36.6% – 93.4%	47.6% – 82.4%	52.7% – 78.6%
Sf	X	X	3.8% – 36.3%
FR/ER	X	X	2% – 6.5%
NR	X	X	0% – 5.8%

SD = standard deviation

In addition to listing categories where typical behaviours were observed to occur, it was also important to note specific categories where behaviours did not occur. For example, the adults who assess language behaviour in EAL pre-schoolers should not expect spontaneous utterances (SU) or confirmation of information requested (Cf). One member of the Senior group (S21) did produce confirmation behaviour (as in the example to follow), but this was an exception.

Example of Cf:

S21

(Information requested: What are all the other children doing?)

They? One's sitting, one's playing and the other one's also playing.

The information regarding types of responses to be carried over to the Profile will be the following:

Profile summary 16: Responses/spontaneous utterances

Group	*Range of occurrence representative of group (mean/median +/2SD)*		
	Category	*Representative range*	*Size of range*
Junior group (4-0 to 4-11)	**QR/CR**	**31.6% – 80.8%**	**49.2**
	Sf	**0% - 20%**	**20**
	FR/ER	**0% – 5.3%**	**5.3**
	NR	**3.8% – 68.4%**	**64.6**
Middle group (5-0 to 5-11)	**QR/CR**	**68.4% – 90.6%**	**22.2**
	Sf	**0%- 13.5%**	**13.5**
	FR/ER	**0**	**0**
	NR	**0% – 14.8%**	**14.8**
Senior group (6-0 to 6-11)	**QR/CR**	**52.7% – 78.6%**	**13.9**
	Sf	**3.8% – 36.3%**	**32.5**
	FR/ER	**2% – 6.5%**	**4.5**
	NR	**0% – 5.8%**	**5.8**

8.3 Mazes

The language data from the conversation sample was scanned to identify instances of the following behaviours, which have been termed mazes because they tend to disrupt, confuse, and slow the progress of communication (Owens, 1999:177; Friel-Patti, DesBarres & Thibodeaux, 2001): false starts, reformulations, revisions, repetitions, and filled pauses. Table 8.8 displays the number of participants in each group who produced more than one utterance with each type of maze.

Table 8.8. Number of children producing more than 2 utterances with a particular maze

Group	Number of participants producing more than 2 instances of:				
	False starts	*Reformulations*	*Revisions*	*Repetitions*	*Filled pauses*
Junior	1	0	0	5	0
Middle	2	2	0	1	1
Senior	6	3	0	10	5

The Senior group (age 6 to 6-11 years) produced the largest number of utterances with mazes. Half or more than half of the participants in the Senior group produced more than two utterances containing false starts, repetitions, and filled pauses.

The figures in Table 8.8 confirm that the following behaviours were demonstrated typically or to a noteworthy extent by the groups of participants.

Junior group:	*repetitions* (marginally noteworthy – demonstrated by 50% of participants)
Middle group:	none
Senior group:	*repetitions* (typical – produced by 100% of participants) *false starts* (noteworthy – produced by 60% of participants) *filled pauses* (marginally noteworthy – demonstrated by 50% of participants)

Since children with SLI have been reported to produce a high frequency of mazes (Friel-Patti *et al.*, 2001), there should be some point of comparison as to the percentage of mazes that typically occurs in a specific population. Frequency of disruption is usually determined by calculating the frequency of mazes per 100 unmazed words (Owens, 1999:177). In the current research this would not be feasible in view of the relatively low TNW attained by the pre-school participants (Chapter 7). Table 8.9 and Figure 8.3 present the mean percentage of utterances containing each type of maze in the elicited language production of the three age groups.

Table 8.9. Mean percentage of utterances containing mazes in three groups of children

Group	Mean percentage of utterances containing		
	false starts	*repetitions*	*filled pauses*
Junior group		5.7	
Middle group			
Senior group	4.2	12	3.7

The identified behaviours could act as clinical markers (indications of possible risk for language impairment) in the following way for the various age groups:

Junior group:	if repetitions occur in more than 5.7% of utterances
Middle group:	no typical behaviour
Senior group:	if false starts occur in more than 4.2% of utterances If repetitions occur in more than 12% of utterances If filled pauses occur in more than 3.7% of utterances.

The Senior group (6-0 to 6-11 years) rendered more data of clinical significance than the two younger age groups. The developmental trend for the occurrence of mazes is

illustrated in Figure 8.3a and 8.3b. Figure 8.3a depicts the data for all participants, while the data from a single participant in the Middle group who produced excessively high scores was omitted in Figure 8.3b.

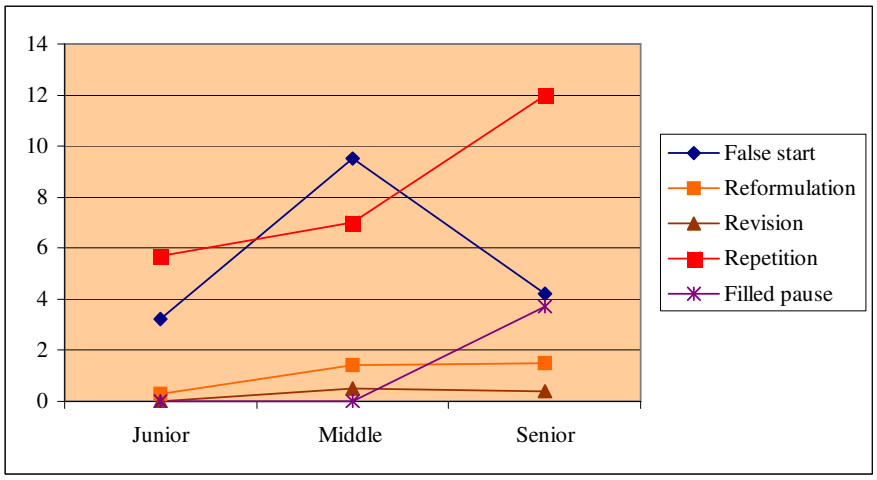

Figure 8.3a. Mean percentage of utterances containing mazes in three age groups (Junior group N=10, Middle group N=10, Senior group N=10)

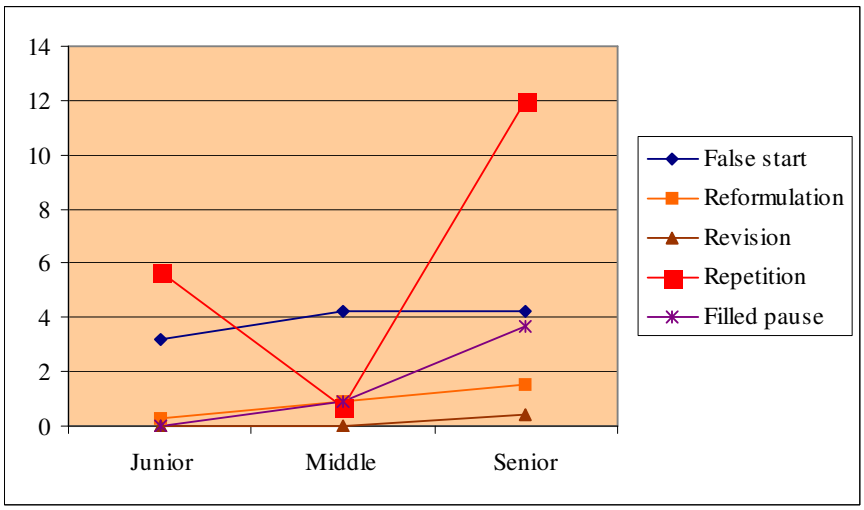

Figure 8.3b. Mean percentage of utterances containing mazes in three age groups (Junior group N=10, Middle group N=9, Senior group N=10)

The phenomenon of increase in the mean percentage of most of the types of mazes (the possible exception being false starts) may reflect the increased complexity of utterances in older children. Meeting cognitive and linguistic demands such as identifying increasingly complex topics in conversation and selecting appropriate words to express associated thoughts (Owens, 1999:166, 177) can lead to longer

pauses and more extensive use of fillers. The number of participants producing more than two utterances containing a particular maze is illustrated in Figure 8.4.

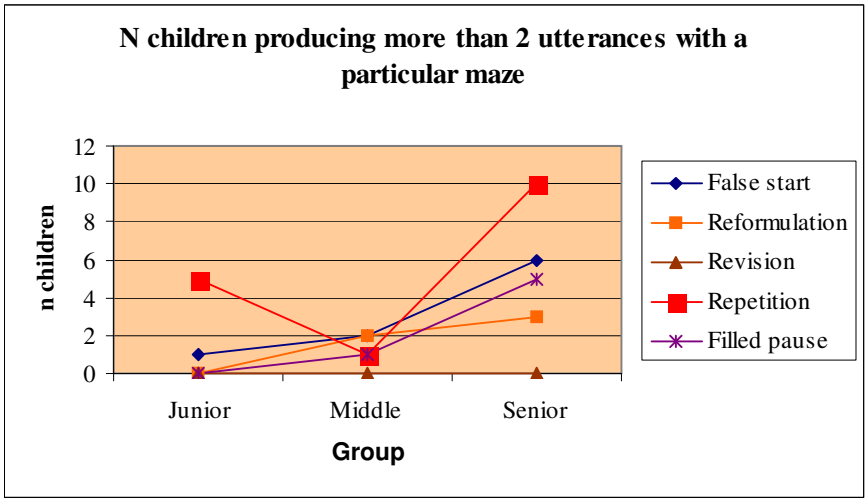

Figure 8.4. Number of children in each of 3 age groups producing more than 2 utterances containing a particular maze

In general, except for repetitions and revisions, a steady increase was observed in the number of participants producing the various mazes. The number of participants producing revisions was not noteworthy in any of the age groups. The number of participants producing repetitions was half of the group for the Juniors, only one for the Middle group, and the whole group for the Seniors. It may be that the repetitions produced by very young speakers are the result of lags in formulation or word finding attempts (Owens, 1999: 166), which decrease as they develop increased language ability. As development progresses, children may begin to use repetition as a strategy to gain time for formulation, especially in narratives (Owens, 1999:177).

The more noticeable appearance of filled pauses in the Senior group may similarly indicate advanced pragmatic awareness, in the sense that the child uses an acceptable ploy to retain the communicative turn while formulating a satisfactory utterance (Owens, 1999:177).

The information regarding mazes to be carried over to the Profile will be the following:

Profile summary 17: Mazes

Group	*Noteworthy behaviour (50-80% of group)*	*Typical behaviour (80%+of group)*
Junior group (4-0 to 4-11)	**Repetitions (occurring on average in 5.7% of utterances)**	
Middle group (5-0 to 5-11)	***No noteworthy behaviour identified***	***No typical behaviour identified***
Senior group (6-0 to 6-11)	**False starts (occurring on average in 4.2% of utterances)** **Filled pauses (occurring on average in 3.7% of utterances)**	**Repetitions (occurring on average in 12% of utterances)**

8.4 Discourse devices

The discourse device investigated for pre-school EAL learners in conversation with an adult was the use of connectives as cohesive devices. The number of connectives per T-unit is regarded as a measure to rate good-to-poor narrative discourse (Owens, 1999:235). A T-unit (minimal terminal unit) is defined as a main clause plus any attached or embedded subordinate clause or nonclausal structure (Owens, 1999:487).

Investigation of the narrative discourse of the pre-school participants indicated that there was a low frequency of use of connective words. Table 8.10 displays the production of connective words by the three groups of participants during the conversation with the research fieldworker.

Table 8.10. Production of connective words by the three groups of participants

	N participants producing more than one example of:		
Group	*and*	*but*	*other*
Junior	2	0	2
Middle	5	0	2
Senior	9	1	4

The only connective used to a noteworthy (Middle group) or typical (Senior group) extent was the connective “and”, which is usually one of the first to appear in typically developing first language speakers of English (Hoff, 2005:204; Owens, 2001:338). The connective “but”, which also appears early in typical development of English as

first language (Hoff, 2005:204), did not appear to a noteworthy extent in any of the age groups. Owens (2001:338) points out that, in the initial stages of language development, and is used as an all-purpose conjunction for temporal, causal, and adversative functions. This may also be true for EAL pre-schoolers who are in the early stages of acquiring English (see example from participant from Middle group in Profile summary 18: Connectives, where and has a temporal function).

The information regarding connectives to be carried over to the Profile will therefore be the following:

Profile summary 18: Connectives

Group	*Noteworthy behaviour (50-80% of group)*	*Typical behaviour (80%+of group)*
Junior group (4-0 to 4-11)	***No noteworthy behaviour identified***	***No typical behaviour identified***
Middle group (5-0 to 5-11)	**Use of *And*** Example (M12): Our was swinging on the swing and I fall down	***No typical behaviour identified***
Senior group (6-0 to 6-11)		**Use of *And*** Example (S25): He lie me at the bed and he check my stomach

8.5 Communicative functions

Since there is no data available on age-appropriate pragmatic functions for multilingual EAL pre-schoolers in South African inner-city regions, the typical communicative intents and conversational skills displayed by the pre-school participants were investigated. The protocol designed by Creaghead (1984) was implemented to obtain data, since it was considered unlikely that the picture description and personal narrative would provide opportunities for the participants to display a variety of pragmatic language behaviours.

The results are displayed in Tables 8.11 to 8.13 below.

Table 8.11. Percentage participants producing communicative intents

Communicative intents	Junior group	Middle group	Senior group
Greeting	100	100	100
Request object	10	50	70
Request action	20	40	70
Request information	10	70	70
Comment on object	40	60	70
Comment on action	50	60	80
Describe event	40	30	100
Prediciting	40	80	100
Hypothesizing	40	30	70
Denial	20	30	20
Choosing	100	100	100
Giving reasons	10	30	100
Closing a conversation	80	90	100

Table 8.12. Percentage participants producing conversational devices

Conversational devices	Junior group	Middle group	Senior group
Answering	70	100	100
Volunteering to communicate	20	50	80
Attending to speaker	90	100	100
Taking turns	20	70	90
Acknowledging speaker	40	60	90
Specifying a topic	10	30	80
Changing the topic	10	0	60
Maintaining the topic	40	80	90
Asking conversational questions	10	10	60
Giving expanded answers	0	20	90
Requesting clarification	10	60	90
Clarifying	10	20	90

Tables 8-11 and 8-12 provide a visual overview of the increasing use of both communicative intents and conversational devices with increase in age of the pre-school participants. The general increase in these two behaviours is illustrated more specifically in Table 8.13 and Figures 8.5 and 8.6.

Table 8.13. Number of noteworthy and typical pragmatic behaviours demonstrated by pre-school participants

Groups	N intents typical	N intents noteworthy	Total
Junior	3	1	4
Middle	4	4	8
Senior	7	5	12
	N devices typical	**N devices noteworthy**	**Total**
Junior	1	1	2
Middle	3	4	7
Senior	10	2	12

The number of communicative intents and functions displayed by the three age groups (Table 8.13) are compared in Figure 8.5 and Figure 8.6. The communicative intents and devices are not specified in these figures because the objective is to demonstrate the increased use of communicative intents and devices in general with increasing age.

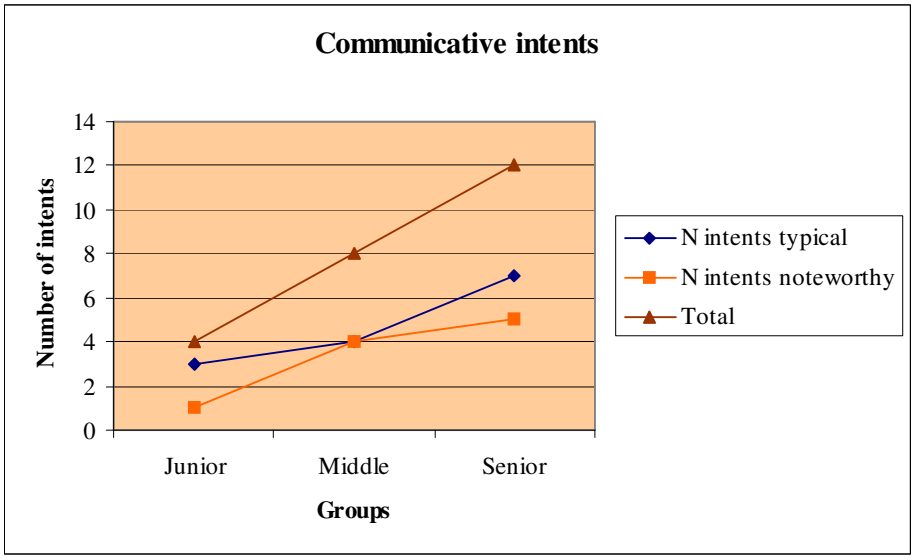

Figure 8.5. Comparison of three age groups regarding communicative intents

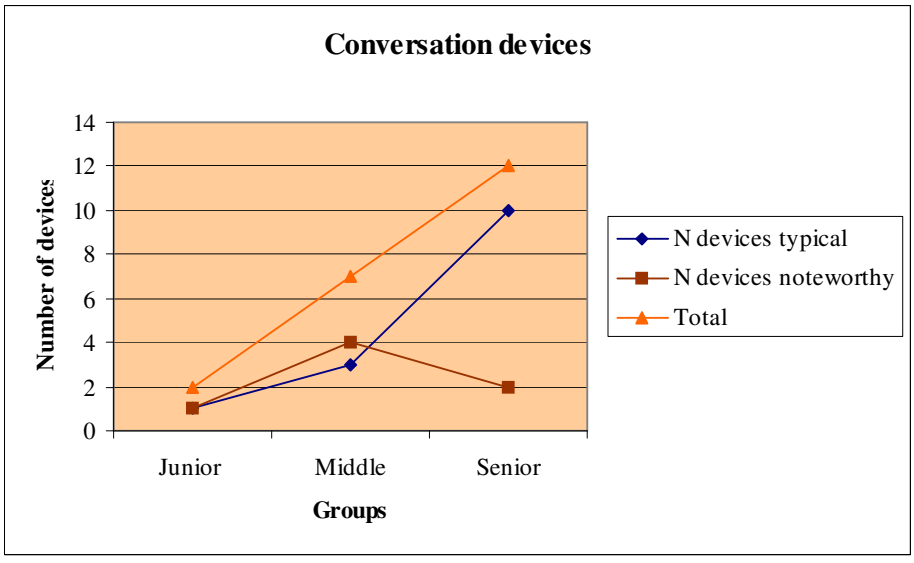

Figure 8.6. Comparison of three age groups regarding conversation devices

Figures 8.5 and 8.6 demonstrate that the pre-school participants became more adept communicators with increase in age. The decrease in noteworthy behaviours is explained by the steep increase in typical behaviours. However, these results reflected

only elicited behaviours and did not include communicative functions that occurred spontaneously during the conversation with the research fieldworker. Furthermore, although they were classified into communicative intents and conversational devices, it was considered that a more detailed classification might provide more comprehensive developmental information.

Keshavarz (2001:188), following Halliday, distinguishes seven categories of early developing communicative functions under two headings, namely interpersonal functions (instrumental, regulatory, interactional, and personal functions) and ideational functions (heuristic, imaginative, and informative functions).

When the data collected with Creaghead's (1984) protocol was superimposed on the categories proposed by Halliday (cf Keshavarz, 2001:188), and added to the communicative functions identified in the conversational language sample, a representation of the types of functions displayed by the pre-school participants was constructed (Table 8.14). In order to utilise the elicited behaviours, the functions represented in Creaghead's (1984) protocol were categorised as follows:

Categories proposed by Halliday (Keshavarz, 2001:188)	Functions listed by Creaghead (Creaghead, 1984)
Interpersonal functions:	
Instrumental functions:	requesting objects, requesting actions
Regulatory functions:	requesting/directing action
Interactional functions:	greeting, specifying a topic, closing a conversation, acknowledging, attending to speaker.
Personal functions:	making choices, expressing feelings, denial.
Ideational functions:	
Heuristic functions:	requesting information, requesting clarification
Imaginative functions:	hypothesizing, predicting
Informative functions:	providing information, commenting, describing an event, giving reasons, answering questions.

The results are displayed in Table 8.14.

Table 8.14. Categories of communicative functions displayed by pre-school participants

	Interpersonal functions							
	INSTRUMENTAL		REGULATORY		INTERACTIONAL		PERSONAL	
Groups	*Sample*	*Creaghead*	*Sample*	*Creaghead*	*Sample*	*Creaghead*	*Sample*	*Creaghead*
Junior		1			10	10	5	10
Middle		6			10	10	5	9
Senior		8			10	10	6	10
	Ideational functions							
	HEURISTIC		IMAGINATIVE		INFORMATIVE			
Groups	*Sample*	*Creaghead*	*Sample*	*Creaghead*	*Sample*	*Creaghead*		
Junior	2	2	4	5	9	8		
Middle		8	8	8	10	10		
Senior	2	10	9	10	10	10		

Key :-
Sample = data obtained from conversation sample
Creaghead = data obtained from using the activities suggested in Creaghead's (1984) protocol.

Examples of the types of communicative functions displayed by the pre-school participants are provided in Table 8.15.

Table 8.15. Examples of the types of communicative functions displayed by the pre-school participants

Participant number	Type	Example
J4 (Junior group)	Personal	That's a nice present there
J4 (Junior group)	Imaginative	Predicts: They's gone eat the cake
J5(Junior group)	Informative	This is the girl umbrella
M11 (Middle group)	Personal	Don't hit other children
S21 (Senior group)	Imaginative	Maybe it's a dog present
J6 (Junior group)	Interactional	Acknowledges statement with "yes"
J10 (Junior group)	Interactional	Introduces new topic: "If you come in the water you see a shark and a whale"

As surmised, the more detailed classification afforded insight into the specific types of functions displayed by the three age groups of participants (Table 8.14). Instrumental and heuristic functions were more readily observed in the elicited than in the spontaneous context, and both showed an increase in occurrence with increase in age of the participants. Both of these functions involve making requests from the conversational partner, and it is important to note that, although the EAL pre-school participants produced few or no requests in the conversation context, requests could be elicited by the use of Creaghead's (1984) protocol. Imaginative functions were evident in both contexts and also demonstrated a developmental tendency.

Interactional functions (greeting, specifying a topic, closing a conversation) were typical behaviours in both spontaneous and elicited contexts for all three of the age groups of participants. A qualitative scrutiny of the category informative functions revealed that all participants answered questions. On the other hand, no participant demonstrated any regulatory functions. The absence of regulatory language behaviours can be accounted for by the nature of the interaction context, namely interaction between a pre-schooler and an adult in a pre-school setting. For the rest of the data in Table 6.50 there is no clear indication that the pre-school participants found the ideational functions more difficult to use than the interpersonal functions as predicted by Keshavarz (2001:192).

The results depicted in Table 8.14 indicate that a more comprehensive assessment of communicative functions was possible when information from both the conversation and the elicited context was considered. When behaviour was elicited with the use of Creaghead's (1984) protocol, the pre-school participants demonstrated certain noteworthy and typical behaviours. Since therapists and teachers may be more familiar with the terminology employed by Creaghead (1984), the information will be carried over to the Profile as follows:

Profile summary 19: Communicative intents

Group	*Noteworthy behaviour (50-80% of group)*	*Typical behaviour (80%+of group)*
Junior group (4-0 to 4-11)	**Commenting on actions**	**Greeting** **Making choices** **Closing a conversation**
Middle group (5-0 to 5-11)	**Requesting an object** **Requesting information** **Commenting on an object** **Commenting on an action**	**Greeting** **Predicting** **Making choices** **Closing a conversation**
Senior group (6-0 to 6-11)	**Requesting an object** **Requesting an action** **Requesting information** **Commenting on an object** **Hypothesizing**	**Greeting** **Commenting on an action** **Describing an event** **Predicting** **Making choices** **Giving reasons** **Closing a conversation**

Profile summary 20: Conversational devices

Group	*Noteworthy behaviour (50-80% of group)*	*Typical behaviour (80%+of group)*
Junior group (4-0 to 4-11)	**Answering**	**Attending to speaker**
Middle group (5-0 to 5-11)	**Volunteering to communicate Taking turns Acknowledging speaker Requesting clarification**	**Answering Attending to speaker Maintaining a topic**
Senior group (6-0 to 6-11)	**Changing a topic Asking conversational questions**	**Answering Volunteering to communicate Attending to speaker Taking turns Acknowledging speaker Specifying a topic Maintaining a topic Giving expanded answers Requesting clarification Clarifying**

When the behaviours were grouped into the Hallidayan categories identified by Keshavarz (Keshavarz, 2001), there was also an increase in the number of functions demonstrated with increase in age. This information will also be carried over to the Profile as follows:

Profile summary 21: Communicative functions

Group	*Noteworthy behaviour (50-80% of group)*	*Typical behaviour (80%+of group)*
Junior group (4-0 to 4-11)	**Imaginative functions**	**Interactional functions** **Personal functions** **Informative functions**
Middle group (5-0 to 5-11)	**Instrumental functions**	**Interactional functions** **Personal functions** **Informative functions** **Heuristic functions** **Imaginative functions**
Senior group (6-0 to 6-11)		**Instrumental functions** **Interactional functions** **Personal functions** **Informative functions** **Heuristic functions** **Imaginative functions**

8.6 Conversational skills

This section describes various aspects of conversational skills, namely the ability of the pre-schoolers to repair breakdowns in conversation, the appropriateness of the pre-school participants' responses (Owens, 1999:156), the nature of their responses to questions (Pan, 1994:46), and their conversational turn-taking.

8.6.1. Repairing breakdowns

Both partners in a conversation may request repairs when conversation breakdown occurs, and it is equally important to take note of requests and of responses to these requests (Owens, 2001:365). For this reason, the conversations between the pre-school participants and the research fieldworker were analysed to identify all instances of repairs requested by both partners, and of the pre-school participants' responses to requests by the adult participant for conversation repairs. The results of the analysis are displayed in the tables and figures below.

Table 8.16. Conversation breakdown and repairs occurring in the conversation of EAL pre-schoolers

Type of behaviour observed	Group			Total for type of observation
	Junior	*Middle*	*Senior*	
t req	5	0	9	14
t resp	5	2	9	16
t nr	1	1	1	3
Total per group	11	3	19	
Number of participants	5	2	6	

Key: t req = total number of repairs requested by child
t resp = total number of repairs requested by adult and supplied by child
t nr = total number of repairs requested by adult but not supplied by child
Total per group = total number of repair opportunities observed
Number of participants = total number of participants per group participating in repair behaviour

Only one instance was observed for each age group where the adult requested some form of repair, but no repair was supplied by the child. The Middle group appeared to be generally less involved in repairing communication breakdowns than the other two groups. However, for both repairs requested and repairs supplied, there was an increase (Figure 8.7) from the Junior group (five instances observed in each case) to the Senior group (nine instances observed in each case). Although the data is relatively sparse, this indicates a developmental trend in repair behaviour.

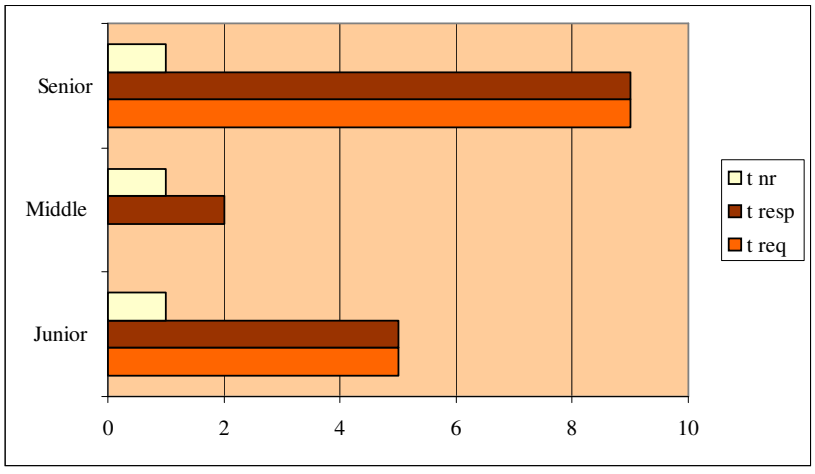

Figure 8.7. Conversational breakdown and repairs per group

Key: t req = total number of repairs requested by child
t resp = total number of repairs requested by adult and supplied by child
t nr = total number of repairs requested by adult but not supplied by child

Overall, more responses were observed than failures to respond, which is a positive indication that the pre-school participants were responsive to the needs of their communicative partner (Owens, 2001:365). In order to decide which kind of repair behaviour could be considered typical of each age group, the number of children demonstrating the various types of behaviour was examined (Table 8.17 and Figure 8.8).

Table 8.17. Number of children demonstrating repair behaviours

Behaviour observed	Groups		
	Junior	*Middle*	*Senior*
N t req	4	0	3
N t resp	5	2	7
N t nr	1	1	1

Key: N t req = total number of children requesting repairs
N t resp = total number of children supplying repairs requested by adult
N t nr = total number of children not supplying repairs requested by adult

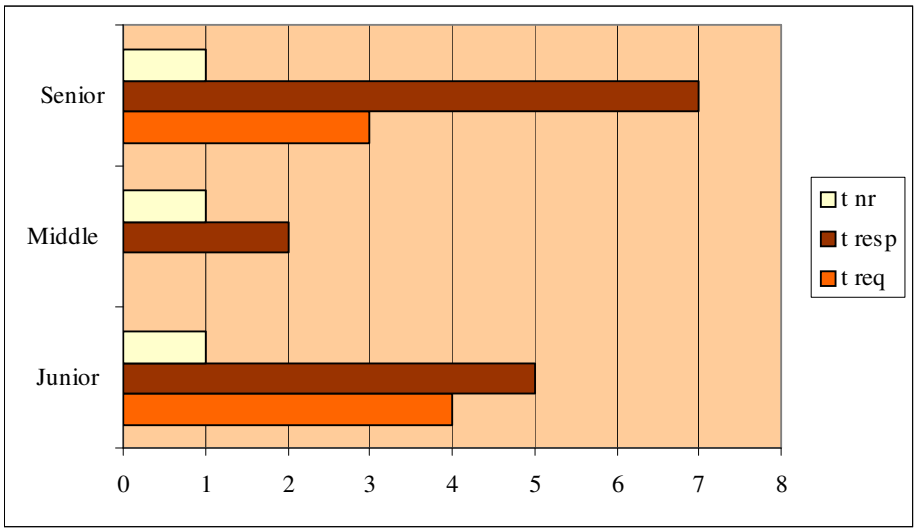

Figure 8.8. Number of children demonstrating repair behaviours for three age groups

In the Junior group, only one type of behaviour was displayed to a noteworthy extent (by 50% of the participants), namely *supplying repairs requested by adult*. This behaviour was displayed by 70% of the Senior group. The details of the categories of repair observed for each group of participants appear in Table 8.18.

Table 8.18. Categories of repair observed per group (details)

	N per group	req rep	req conf	req spec	resp rep	resp conf	resp spec	Resp opp	nr rep
Total Junior group	5	1	3	1	2	0	3	6	1
Total Middle group	2	0	0	0	2	0	0	3	1
Total Senior group	6	0	9	0	4	4	1	10	1
Total observations		1	12	1	8	4	4	19	3

Key:
N per group = number of participants per group for whom any type of repair behaviour was observed.
Req rep = repetition requested by child for clarification (number of observations)
Req conf = confirmation requested by child (number of observations)
Req spec = specification requested by child (number of observations)
Resp rep = response to repetition requested by adult (number of observations)
Resp conf = response to confirmation requested by adult (number of observations)
Resp spec = response to specification requested by adult (number of observations)
Resp opp = total number of opportunities afforded to respond to requests for repair
Nr rep = no response when repetition requested by adult (number of observations)

In all, the mean number of opportunities afforded for children in the various groups to supply conversation repairs was 0.6 for the Junior group, 0.3 for the Middle group, and 1.0 for the Senior group (deduced from Table 8.18). This number seems so low that supply of repair behaviours is not considered a highly relevant category of behaviour to investigate for obtaining markers of typical conversational behaviour in young EAL children engaged in conversation with an adult. The implication is not that the pre-school participants were not able to produce this behaviour, but rather that repairs were not requested from them.

Table 8.19 provides an overview of the total number of participants displaying each type of repair behaviour.

Table 8.19. Total number of children displaying each type of behaviour

	Req rep	Req conf	Req spec	Resp rep	Resp conf	Resp spec	Nr rep
Total junior group	1	2	1	2	0	3	1
Total middle group	0	0	0	2	0	0	1
Total senior group	0	3	0	3	3	1	1
Total all groups	1	5	1	7	3	4	3

Key:
Req rep = repetition requested by child for clarification (number of participants)
Req conf = confirmation requested by child (number of participants)
Req spec = specification requested by child (number of participants)
Resp rep = response to repetition requested by adult (number of participants)
Resp conf = response to confirmation requested by adult (number of participants)
Resp spec = response to specification requested by adult (number of participants)
Nr rep = no response when repetition requested by adult (number of participants)

Although repair behaviours were noted in more than 50% of participants in both the Junior and Senior groups, no single type of behaviour was recorded for more than 50% of any specific group. Therefore, no information concerning repair behaviours will be carried over to the Profile.

8.6.2. Appropriateness of responses

Spontaneous utterances and follow-up utterances were excluded from this analysis, since they cannot be classified as responses in the sense required here. Only those utterances that were produced in response to a stimulus were included. "No response" is counted on the grounds that it can be regarded as a refusal or failure to respond. The results regarding the appropriateness of responses are displayed in Tables 8.20 to 8.22.

Table 8.20. Appropriateness of responses: Junior group

Participant	J1	J2	J3	J4	J5	J6	J7	J8	J9	J10	n	N producing more than once
Total responses	26	6	19	31	20	23	25	21	24	29	10	
Appropriate	21	0	5	24	13	21	19	10	19	25	9	9
Irrelevant/ inappropriate	2	0	1	2	0	0	1	0	2	2	6	4
Questionable	2	0	0	4	0	1	1	2	2	2	7	4
No response	1	6	13	1	7	1	4	9	1	0	9	5

Table 8.21. Appropriateness of responses: Middle group

Participant	M 1	M 2	M 3	M 4	M 5	M 6	M 7	M 8	M 9	M1 0	n	N producing more than once
Total responses	21	29	32	14	53	28	32	24	26	15	10	
Appropriate	20	25	30	12	44	26	30	20	20	10	10	9
Irrelevant/ inappropriate	0	0	1	1	1	0	1	1	2	0	6	1
Questionable	1	1	1	1	4	0	0	0	0	0	5	1
No response	0	3	0	0	4	2	1	3	4	5	7	6

Table 8.22. Appropriateness of responses: Senior group

Participant	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	n	N producing more than once
Total responses	47	48	51	58	38	48	49	31	50	36	10	
Appropriate	45	20	49	55	32	46	45	19	46	35	10	10
Irrelevant/ inappropriate	1	15	1	1	2	1	0	1	1	0	8	2
Questionable	1	6	0	2	1	1	2	2	1	1	9	4
No response	0	7	1	0	2	0	2	9	2	0	6	5

While all of the categories of response were noted in more than 50% of participants in all three groups, production of more than two instances per participant in more than

50% of participants per group appeared only for the following categories for all three groups:

Appropriate response
No response

In the case of the Junior group, 50% of participants also provided more than two instances of questionable response, that is, it was debatable whether the response was appropriate or not. Overall, the young participants seemed typically to respond when they were sure of the response, and to refrain from responding in other cases.

Besides identifying the type of typical responses with regard to appropriateness, it was also necessary to determine the typical percentage of responses that would fall into each of these categories. The number of responses in each of these two categories (appropriate response and no response) were calculated as a percentage of the total number of responses for each participant. The means and standard deviations were then calculated. The resulting proposed normative ranges are presented in Table 8.23. The formula of two standard deviations above and below the mean could not be applied where the range of percentages obtained was too wide, with consequently a large standard deviation. In addition, the percentage of utterances falling within a category could not be more than 100%; consequently, the range included between the 10^{th} and 90^{th} percentiles (Steyn *et al.*, 1994:127) was used to describe the performance of 80% of the participants in each age group.

Table 8.23. Proposed normative range for *appropriate response* and *no response* for three age groups of pre-school participants

Group	Category	Mean	Range	SD	Norm (mean –2SD to mean +2SD	10th to 90th percentile.
Junior	Appropriate	70	59.9	20.8	28.4% – 100%	26.3% – 86.2%
	No response	19.8	68.4	23.8	Typical range could not be established	0% – 12.5%
Middle	Appropriate	85.8	28.5	9	67.8-100	76.9% – 93.8%
	No response	8.9	33.3	10.2	Typical range could not be established	0% – 12.5%
Senior	Appropriate	85.3	55.3	18.6	48.1 – 100	61.3% – 96%
	No response	5.9	29	9.3	Typical range could not be established	0% – 14.6%

The developmental tendency for these two categories is displayed in Figure 8.9.

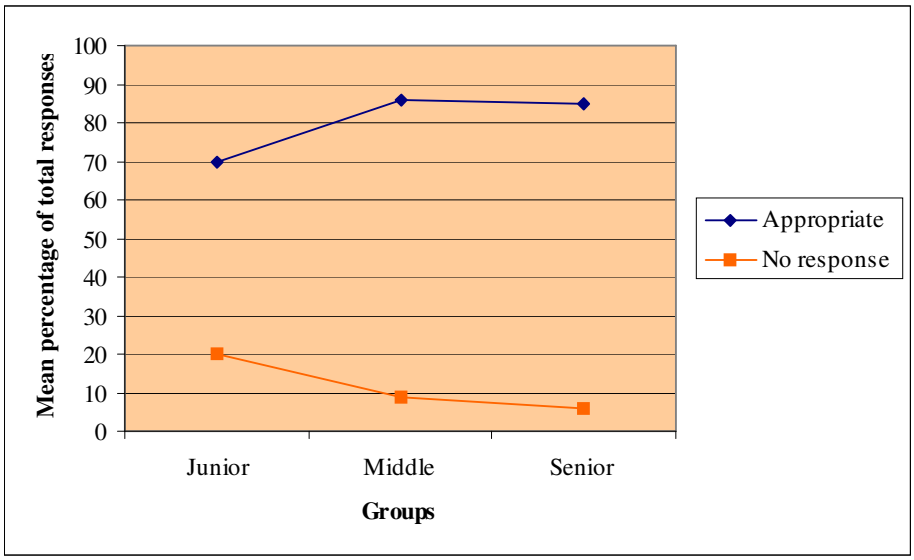

Figure 8.9. Developmental tendency for appropriateness of response in three age groups

The increase in appropriate responses from 4 to 6 years and the steady decrease in no response both point to an advance in appropriateness of responses with age, *if* no response *is regarded as inappropriate behaviour*. In summary, most of the responses elicited from the pre-school EAL participants were appropriate.

The information to be carried over to the Profile will be the following:

Profile summary 22: Appropriateness of responses

Group	*Noteworthy behaviour (50-80% of group)*	*Typical behaviour (80%+of group)*	*Range of occurrence representative of group (10^{th} – 90^{th} percentile) and mean for group*
Junior group (4-0 to 4-11)	**No response**	**Appropriate response**	**Appropriate response 26.3% – 86.2% (mean: 70%) No response 0% - 12.5% (mean 19.8%)**
Middle group (5-0 to 5-11)	**No response**	**Appropriate response**	**Appropriate response 76.9% - 93.8% (mean 85.8%) No response 0% - 12.5% (mean 8.9%)**
Senior group (6-0 to 6-11)	**No response**	**Appropriate response**	**Appropriate response 61.3% - 96% (mean 85.3%) No response 0% - 14.6% (mean 5.9%)**

8.6.3. Conversational turns taken

The mean percentage of conversational turns taken for each of the three groups of participants is displayed in Table 8.24. Participants in the Junior group on average took more than 80% of the conversational turns available to them, while participants in the Middle and Senior groups on average took more than 90% of the available turns. On the whole, therefore, the pre-school participants evidenced appropriate utilisation of the interactional framework of the conversation (Owens, 2001:163-165).

Table 8.24. Percentage of conversational turns taken by pre-school participants

Group	Mean	Range	Standard deviation (SD)	10th %ile	90th %ile
Junior	82.78%	44 – 100%	21.18	57%	100%
Middle	93.46%	68.75 – 100%	9.57	89.66%	100%
Senior	93.94%	70.97 – 100%	9.21	85.71%	100%

The scatter of percentages for each group (Figures 8.10 to 8.12) reveals a single low score in each group, indicating that the typical range of behaviour would best be

determined by utilising the 10th and 90th percentile (Table 6.60) to find the range for 80% of each group (Steyn *et al.*, 1994:127). The upper limit for all three groups is 100%. The lower limit for the Junior group (57%), however, is considerably lower than that for the Middle and Senior groups (89.66% and 85.71% respectively). In the age range 4-0 to 4-11, therefore, EAL pre-schoolers in this context may be less inclined to utilise all available conversational turns and yet be demonstrating typical behaviour for their age group.

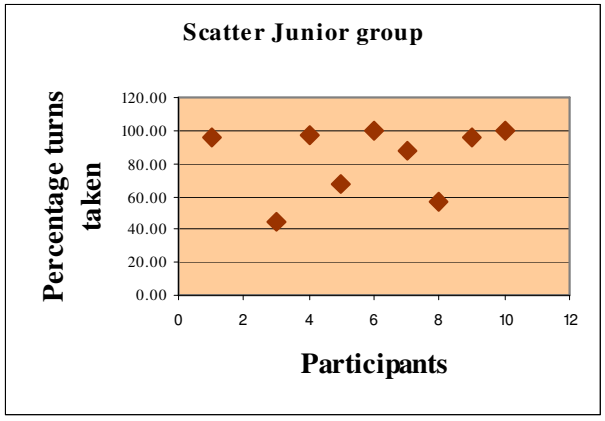

Figure 8.10. Scatter of percentages of conversational turns taken by Junior group

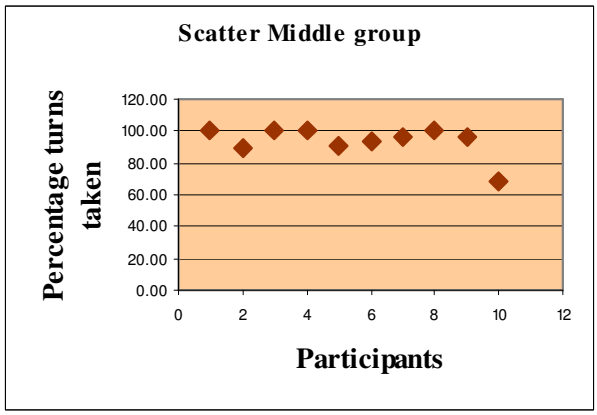

Figure 8.11. Scatter of percentages of conversational turns taken by Middle group

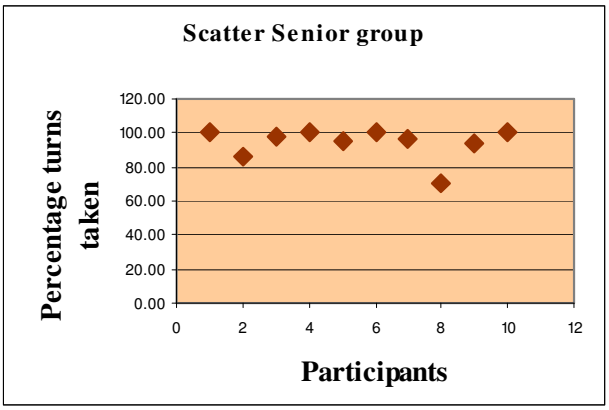

Figure 8.12. Scatter of percentages of conversational turns taken by Senior group

Although participants in all three age groups proved to be good conversationalists in terms of taking conversation turns, the youngest participants, as observed, were sometimes reluctant in this respect. Poor turn-taking is often encountered in young children with language disorders (Owens, 1999:295), but appropriate turn-taking is generally considered to be characteristic of the conversations of young children with normal language development (Owens, 1999: 164). Hoff (2005:266) remarks that children's ability to take turns may even outstrip their understanding of what is being said or asked. The information regarding turn-taking to be carried over to the Profile will be the following:

Profile summary 23: Conversational turns taken

Group	*Range of occurrence representative of group (10^{th} to 90^{th} percentile)*
Junior group (4-0 to 4-11)	**57% – 100%**
Middle group (5-0 to 5-11)	**89.7% – 100%**
Senior group (6-0 to 6-11)	**85.7% – 100%**

8.7 Narratives

The picture sequence sub-test from the Kindergarten Language Screening Test, Second Edition (KLST-2) (Gauthier & Madison, 1998) was intended to elicit connected discourse (Table 5.2, Chapter 5). In most cases, only picture description

was elicited in the form of naming the persons depicted, or labeling or briefly describing the action depicted. Some examples are provided below.

> Examples:
> Participant 9 (Junior group): "Eating and drinking juice. Drinking and eating. He's eating water."
> Participant 13 (Middle group): "A dog. They drink milk. The girl, he take off the milk. The girl. The doggie drink milk."

Occasionally a participant assigned intentions to a person or animal depicted on the picture cards.

> Example:
> Participant 21 (Senior group): "They was drinking the coke. And they was sitting and the dog … They are messed. And they are cleaned up. And the dog want to drink the coke."

With one exception (participant S28, Senior group), the pre-school participants produced narratives that could be classified as heaps or temporal chains without causality (Owens, 2001:354-355). The results relating to the picture story narratives were not considered further for inclusion in the Profile, but a note will be made that picture sequences may not be the ideal medium to elicit narratives from EAL pre-schoolers in this context. Gillis and De Houwer (1998:66) found that not all the four-year-old Dutch-speaking children they studied were able to tell a connected story based on a picture book. Some children tended to describe the separate pictures only, in much the same way as the EAL pre-school participants. The use of pictures may place cognitive demands that interfere with the children's ability to tell a story (Hoff, 2005:385; Müller, Munro & Code, 1981:65).

The components of a narrative were more clearly evidenced in the participants' productions of personal narratives as elicited by a story map (Tönsing, 1998:17). For each participant, the longest personal narrative produced was selected for analysis as suggested by Rollins, McCabe & Bliss (2000:227). The results of the analyses are

displayed in Tables 8.25 and 8.26. In this case, behaviours were not required to be produced more than once, since only one narrative was analysed for each participant.

Table 8.25. Narratives produced by the pre-school participants

Group	Narrative structure							
	none produced	*one-event*	*two-event*	*miscellaneous*	*leap-frog*	*chronological*	*end-at-high-point*	*classic*
Junior group	2	5	0	0	2	1	0	0
Middle group	0	1	2	5	0	2	0	0
Senior group	0	1	1	0	0	5	3	0

Table 8.26. Summary of narratives produced by each group of participants

Junior group	N	Middle group	N	Senior group	N
one-event	5	miscellaneous	5	chronological	5
leap-frog	2	two-event	2	end-at-high-point	3
None	2	chronological	2	one-event	1
chronological	1	one-event	1	two-event	1

Key: N = number of participants producing the specified narrative type

Although no typical narrative type (i.e. produced by 80% or more of a group of participants) was found for any age group, a developmental trend was observed in the narrative types produced by 50% of the participants in each age group. In addition, while two of the participants in the Junior group failed to produce a narrative, all of the participants in the Middle and Senior groups did produce narratives. The highest level of narrative produced (by three participants in the Senior group) was end-at-high-point narrative. No participant produced a classic narrative, the highest level reported in the literature for pre-schoolers (Rollins *et al.*, 2000).

In Table 8.27 the production of narratives by the pre-school participants is compared to the typical developmental sequence and age levels reported in the literature for European North American children (Rollins *et al.*, 2000:225). The developmental sequence appears to be similar for the two groups, but the pre-school participants appear to have attained the various levels at a later age than their North American counterparts.

Table 8.27. 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	

The frequency of occurrence of the various codes ascribed to the individual clauses contained in each participant's narrative, as well as the total number of codes assigned for each narrative, also yielded results indicating an overall developmental trend (Table 8.28). Increase in age coincided with an increase in the total number of codes assigned.

Table 8.28. Frequency of occurrence of each code for each group of participants

Group	Code					
	Orientation	*Action*	*Evaluation*	*Resolution*	*Coda*	*Total*
Junior	3	18	7	1	0	29
Middle	2	33	5	4	0	44
Senior	11	46	14	1	0	72
All	16	97	26	6	0	**145**

When the relative percentage of total codes assigned was computed for each type of code, the three age groups displayed the same pattern of distribution: the highest percentage of codes were in the action category, followed by evaluation and in the third place orientation. The only exception is the middle group where the resolution category carried a higher percentage than the orientation category (Table 8.29).

Table 8.29. Percentage of occurrence of codes for each age group

Group	Code					
	Orientation	*Action*	*Evaluation*	*Resolution*	*Coda*	*Total*
Junior	10	62	24	4	0	100
Middle	5	75	11	9	0	100
Senior	15	64	20	1	0	100
All	11	67	18	4	0	100

The information regarding production of personal narratives to be carried over to the Profile will be the following:

Profile summary 24: Personal narratives

Group	*Noteworthy behaviour (50-80% of group)*	*Typical behaviour (80%+of group)*
Junior group (4-0 to 4-11)	**One-event narrative produced by 50% of participants. Additional note: More than 60% of any personal narrative falls in the *action* category**	
Middle group (5-0 to 5-11)	**Miscellaneous narrative produced by 50% of participants. Additional note: More than 60% of any personal narrative falls in the *action* category**	
Senior group (6-0 to 6-11)	**Chronological narrative produced by 50% of participants. Additional note: More than 60% of any personal narrative falls in the *action* category**	

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8.8 Conclusion

The semi-structured conversation between the adult research fieldworker and the EAL pre-school participants, with the addition of communicative behaviours elicited with

the aid of Creaghead's (1984) protocol, yielded information that could be utilized in assessing the language use of the pre-school participants. It was possible to draw some conclusions regarding the use of language for various functions, adapting to and being responsive to the listener, and adhering to conversational and narrative conventions. It is likely that the results regarding language use will be useful in planning assessment of English language behaviours in EAL pre-schoolers aged 4-0 to 6-11, but especially in those pre-schoolers aged 6-0 to 6-11 where most data could be gathered.

However, the list of typical behaviours relating to language use will not inevitably be meaningful for clinical and educational practice. The ranges of behaviour indicated as "representative" are in many cases very broad and will need refinement. The main value of the results from this section lies in the general indication of the nature of language use typically found in EAL pre-schoolers.

8.9 Summary

The investigation of the divergent aspects of language *use* has yielded diverse results. In some cases there were clear indications of typical language behaviours and developmental trends. In other instances no typical language behaviours could be found. A summary of the results that showed typical language behaviours for any of the three groups of pre-school participants is provided in Table 8.30.

Table 8.30. Typical language behaviours relating to *language use* identified in EAL pre-schoolers

Aspects		**Typical behaviours identified**		
		Junior group	*Middle group*	*Senior group*
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 *And*
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: Percentage of turns taken	57% – 100%	89.7% – 100%	85.7% – 100%
Personal narratives			

It is immediately apparent from Table 8.30 that a number of *typical language behaviours* appeared in the Senior group of pre-school participants, somewhat fewer in the Middle group, and fewer still forms of typical behaviour occurred in the Junior group. This pattern of results implies that the pre-schoolers acquired additional pragmatic behaviours as they grew older.