CHAPTER 4

RESULTS AND DISCUSSION OF RESULTS

Chapter aim: The aim of this chapter is to present the results in the order of the sub-aims specified for the study. The results are discussed and compared to the current body of knowledge to derive meaning from the results and determine their significance.

4.1 INTRODUCTION

"A profession that provides its own research base is much more in charge of its own destiny than a profession that doesn't."

(Kent, 1983:76)

In order to comply with the principle of beneficence in ethical practice (Louw, 2004; Leedy & Ormrod, 2004), speech-language therapists are required to consistently update and develop their knowledge, skills, and attitudes to maintain competency in clinical practice and to protect their clients (HPCSA, 2005). The overall purpose of research in Speech-Language Pathology is to generate new research, and to expand recent knowledge, skills, and ethical attitudes that will enhance and promote professional integrity and practice (HPCSA, 2005).

Internationally, the trend of increasing emphasis on research is related to the importance of evidence-based practice. Dollaghan (2004) states that best practice evidence occurs when individual clinical expertise is integrated with the best of the available external, systematic evidence-based research. In the quest for effective and efficient service delivery and evidence-based practice, the speech-language therapist is continuously faced with the existing incongruence between academic research and clinical practice (Van Kleeck et al., 1998).

This situation in the South African context is similar, where the need for effective and evidence-based practice is also evident. The multi-cultural and multi-lingual South African context poses special challenges to the pursuit of evidence-based practice.

An example that underwrites the above is the lack of knowledge regarding the phonological awareness skills of Black learners (whose mother tongue is almost always an indigenous language) in South Africa. Contradictory reports in international research regarding the transfer of phonological skills to a second and third language (Holm & Dodd, 1996), and the fact that educational success to a large extent hinges on adequate phonological awareness skills (Larrivee & Catts, 1999; Roth & Baden, 2001; Hodson, 1998), necessitates an in-depth investigation into the phonological awareness skills of these learners.

The results of this research project and the subsequent interpretation and discussion of these results provide an account of the phonological awareness skills of a group of Black learners in multi-cultural, multi-lingual context of South Africa, with the focus on proficiency of phonological awareness skills in an educational setup with ELoLT.

In order to extract as much relevant information as possible from this specific research regarding the phonological awareness skills of Black Grade 4 learners with ELoLT, a comparison was made between the participants' phonological awareness skills and their phonological, reading, spelling, and language abilities. The research outcomes pertaining to the aspects listed above were compared in an effort to develop a greater understanding of BSAE which may, in turn, lead to more appropriate applications in teaching and the facilitation of learning and, eventually, to the benefit of Black learners who are being educated in ELoLT.

The aim of this Chapter as previously stated will be achieved by interpreting the results of this study and comparing them to recent relevant research findings. A schematic illustration of the presentation of the results is provided in Figure 4.1.

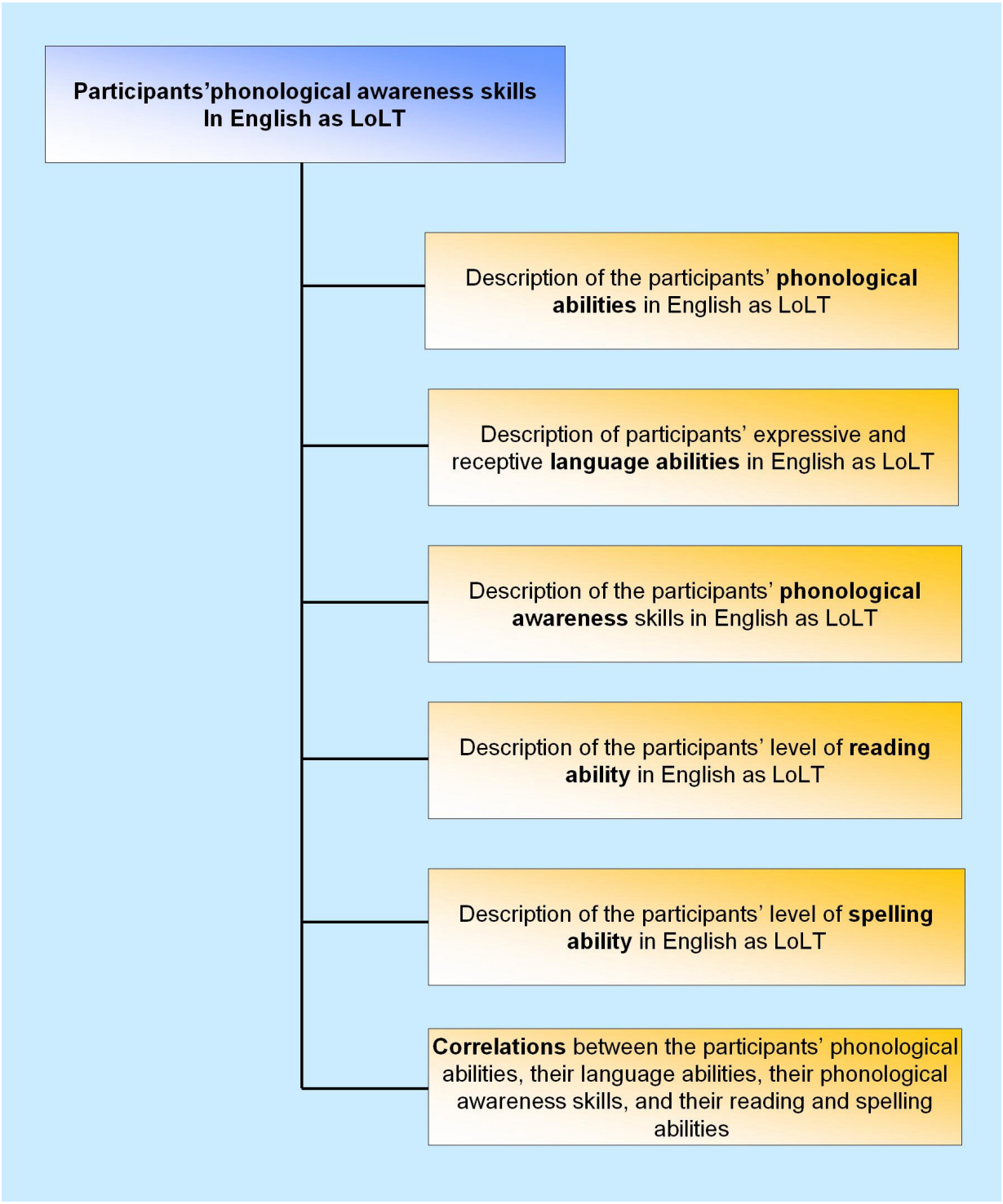

Figure 4.1: Outline of the presentation of the results.

4.2 PHONOLOGICAL ABILITIES

Addressed sub-aim: To determine the participants' phonological abilities in English by assessing vowel and consonant productions in single word utterances with the Goldman-Fristoe Test of Articulation (Goldman & Fristoe, 1986).

To explain the variations of English that occurred in BSAE used by the participants in this study the researcher analysed their production of the target sounds elicited by *The Goldman-Fristoe Test of Articulation* (Goldman & Fristoe, 1986) in terms of phonological variations in consonants and vowels. These results should be interpreted with caution and the reader should consider the limited sample size, the fact that the sample was only single words and not continuous speech, as well as the heterogeneity of the first languages of the 15 participants.

4.2.1 Variations in the production of consonants

A summarised version of the prevalence of phonological variations in consonants as produced by the participants is presented in Figure 4.2.

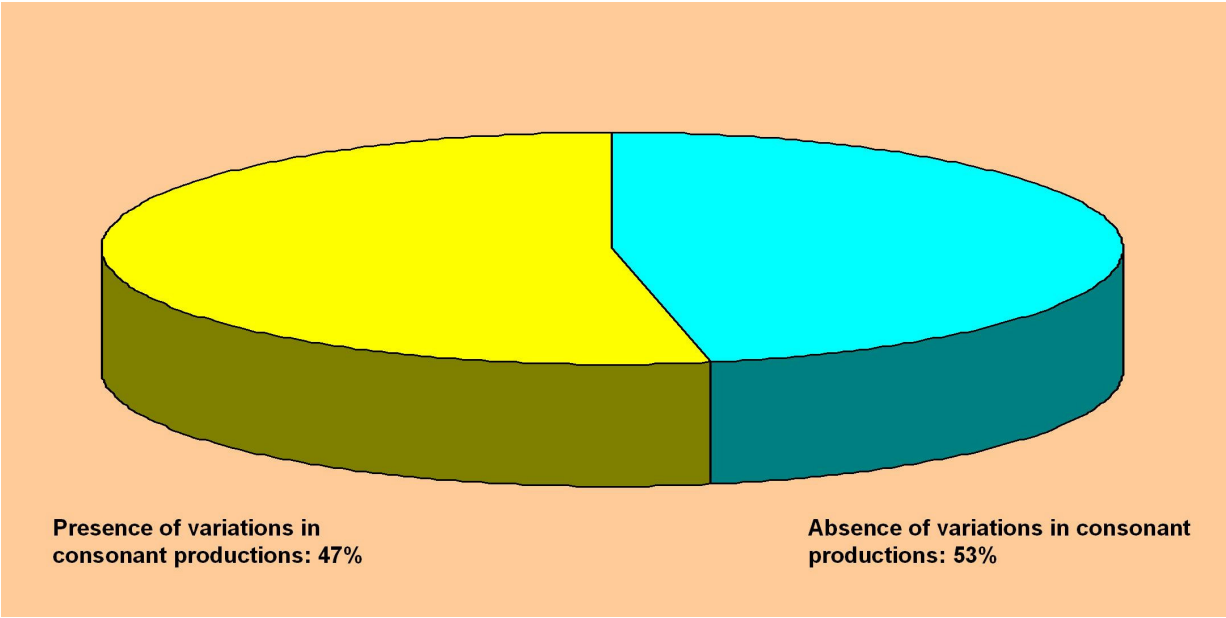

Figure 4.2: Phonological variations in consonant production of the participants in English *(n=15).*

Figure 4.2 shows that approximately half (47%) of the participants produced the target consonants with a phonological variation which is a characteristic of BSAE. Makalela

(2004) reports that the influence of the learners' first language on BSAE may cause phonological variations in BSAE since incipient bilingualism (or multi-lingualism) may contribute to the transfer of phonological features of the mother tongue to the second and/or third language (Van Rooy, 2002). The consonant production of the participants in this research appeared to confirm previously reported findings (Makalela, 2004; Van Rooy, 2002).

The target sounds were transcribed using the phonetic symbols of the *International Phonetic Association (IPA)* (Groenewald & Le Roux, 2005), and the results obtained for the seven participants who evidenced variations are illustrated in Table 4.1. It is important to note that the variations produced by the participants were analysed in terms of the traditional analysis of articulation errors since the researcher is familiar with this approach and also because of its wide international use. The term 'phonological variation' will be used instead of the term 'articulation error' as phonological variations induced by the mother tongue should not be considered to be articulation errors (Bland-Steward, 2005, Lanham, 1984).

Table 4.1: Phonological variation (PV) profiles of consonants produced by the participants *(n=7).*

Target sound elicited with abridged phonetic definition	Phonological Variation (PV) with abridged phonetic Definition	One example of target and elicited sound(s) (I= initial, M= medial; F= final position of the word)	Presence of PV as indicated by number of participant (P) *(n=7)*	First Language of participants	Type of variation			
					Substitution	Deletion	Distortion	Addition
[s]: 1. Spirate 2. Voiceless 3. Mid-alveolar blade-lingual 4. Fricative 5. Mid-oral 6. Egressive Single set	[θ]: 1. Spirate 2. Voiceless 3. Interdental tip-lingual 4. Fricative 5. Mid-oral 6. Egressive Single set	I: sleeping - [sliːpɪŋ] - [θliːpɪŋ] M: telephone - [tɛləfəʊn] - [tɛləθəʊn] F: house - [haʊs] - [haʊθ]	*n=2* P 3 P 9	Setswana Northern Sotho	✓	✗	✗	✗
[ɹ] 1. Spirate 2. Voiced 3. Back-alveolar blade-lingual 4. Frictionless continuant 5. Mid-oral 6. Egressive Single set	[ɬ]: 1. Spirate 2. Voiceless 3. Midalveolar-bladelingual 4. Frictionless continuant 5. Lateral 6. Egressive Double set	I: rabbit - [ɹæbɪt] - [ɬæbɪt] F: scissors - [sɪzəz] - [sɪzə ɬ]	*n=4* P 2 P 4 P 10 P 12	Setswana Northern Sotho Setswana Zulu	✓	✗	✗	✗
[l] 1. Spirate 2. Voiced 3. Mid-alveolar blade-lingual 4. Frictionless continuant 5. Lateral 6. Egressive 7. Single set	[l̪]: 1. Spirate 2. Voiced 3. Interdental tip-lingual 4. Frictionless continuant 5. Lateral 6. Egressive Single set	I: lamp - [læmp] - [l̪æmp] M: yellow - [jɛləʊ] - [jɛ l̪əʊ] F: wheel - [wiːɬ] - [wiː l̪]	*n=4* P 3 P 9 P 10 P 11	Setswana Northern Sotho Setswana Northern Sotho	✓	✗	✗	✗

Target sound elicited with abridged phonetic definition	Phonological Variation (PV) with abridged phonetic Definition	One example of target and elicited sound(s) (I= initial, M= medial; F= final position of the word)	Presence of PV as indicated by number of participant (P) *(n=7)*	First Language of participants	Type of variation *			
					Substitution	Deletion	Distortion	Addition
[ɹ] 1. Spirate 2. Voiced 3. Back-alveolar blade-lingual 4. Frictionless continuant 5. Mid-oral 6. Egressive 7. Single set	[ɻ]: 1. Spirate 2. Voiced 3. Midalveolar-bladelingual 4. Fricative 5. Lateral 6. Egressive 7. Single set	I: drum - [dɹʌm] - [dɻʌm] M: orange - [ɒrɪnʒ] - [ɒɻɪnʒ]	*n=2* P 11 P 12	Northern Sotho Zulu	✓	✗	✗	✗
[ʃ] 1. Spirate 2. Voiceless 3. Front-palatal front-lingual 4. Fricative 5. Mid-oral 6. Egressive 7. Single set	[tʃ]: 1. Spirate 2. Voiceless 3. Front-palatal front-lingual 4. Closure followed by fricative 5. Mid-oral 6. Egressive Single set	M: fishing - [fɪʃɪŋ] - [fɪtʃɪŋ] F: brush - [bɹʌʃ] - [bɹʌtʃ]	*n=1* P 11	Northern Sotho	✓	✗	✗	✗
[θ]: 1. Spirate 2. Voiceless 3. Interdental tip lingual 4. Fricative 5. Mid-oral 6. Egressive 7. Single set	[f]: 1. Spirate 2. Voiceless 3. Labio-dental 4. Fricative 5. Mid-oral 6. Egressive Single set	I: thumb - [θʌm] - [fʌm] F: bath - [bɑːθ] - [bɑːf]	*n=1* P 4	Northern Sotho	✓	✗	✗	✗

① ✓ indicates the presence and ✗ the absence of a phonological variation.

From Table 4.1 it is interesting to note that in the participants' production of single words; phonological variations occurred in the form of substitutions only. According to Bland-Steward (2005) the clinician dealing with different dialects or variations of English needs to be cautious when describing such speaker's realisation of phonological features. Every variation or dialect may have distinctive phonological features that may be *mistaken* for a substitution. Bland-Steward (2005), for example, cites the substitution of [θ] with [f]. (This, incidentally, is a common occurrence in the English of mother tongue speakers of Afrikaans, the reasons being firstly, that Afrikaans has no [θ] in its phoneme inventory and secondly, the close acoustic proximity of these two sounds.) This process manifested in the current study as well and these occurrences were not classified as errors, but rather as phonological variation (PV) arising from mother tongue transference.

Table 4.1 also indicates that the participants' generally favoured the interdental-tiplingual, midalveolar-bladelingual, labio-dental, and front-palatal-front-lingual places of articulation in the substitution process. This phenomenon is ascribed to mother tongue influence. Bernthal and Bankson (2004) state that, in the instance where a learner has two or more languages in his/her repertoire, the two languages tend to influence the pronunciation of sounds both ways. By comparing the different consonant inventories of the six African languages evaluated in this study, it is clear that the majority of consonants in the African languages are produced in the alveolar blade-lingual area of the vocal tract (Jones & Mollema, 2005). The consonant variations that were present in the participants' speech corroborated this statement, and it can therefore be explained in terms of first language influence.

The information in Table 4.1 shows that variations in production by these seven participants involve the following parameters of articulation:
Place of articulation: (85.7%)
Route of air flow: (28.6%)
Manner of articulation: (28.6%)
Place of articulation: (14.3%)

In the light of the selection criteria, the cause of the variations listed above can, at this stage, only be ascribed to the influence of the respective participants' first language and their out-of-school contact with BSAE.

English is an additional language of the participants (and in most cases their only significant exposure to English was as the language of learning and teaching) and it was evident that their first language influenced their pronunciation of English (Goldstein & Iglesias, 2005; Makalela, 2002; Van Rooy, 2002; Flege, 1987). Evidence abounds that spoken English is seriously influenced by the different first languages of BSAE speakers. This influence may impact negatively on eventual spelling and reading proficiency (Goldstein & Iglesias, 2004; Van Rooy, 2002; Tesner, 2004; Tesner, 2005).

4.2.2 Variations in the production of vowels

The vowel variations that occurred in the production of single words elicited by *The Goldman-Fristoe Test of Articulation* (Goldman & Fristoe, 1986) from all 15 participants are presented in Table 4.2. (The phonetic orthography is once again that of the IPA). Since vowel variations are directly attributed to mother tongue influence (Goldstein & Iglesias, 2005; Makalela, 2002; Van Rooy, 2002), participants were grouped in accordance with their first language. Although the *Goldman-Fristoe Test of Articulation* (Goldman & Fristoe, 1986) was not aimed at the testing of vowels, the researcher took the freedom to use a sample of the words elicited by this test to be phonetically transcribed and analysed in terms of the participants' pronunciation of the vowels in these words. In this regard it is important to emphasise that vowels marked in Table 4.2 as *Not elicited* are not necessarily absent in BSAE, but simply were not elicited in the restricted sample of *The Goldman Fristoe Test of Articulation* (Goldman & Fristoe, 1986) which is focused on consonants.

It is important to note that no Black South African English standard exists and that the variations noted in Table 4.2 are purely based on the speech perception abilities of the researcher and a second speech-language therapist (rating assistant), both of them trained listeners (Goldstein & Iglesias, 2004; Makalela, 2004; Van der Walt & Van Rooy, 2002; Van Rooy, 2002; Lanham, 1967). As discussed in Chapter 2, the

perception of different 'accents' is primarily ascribed to the acoustic quality of vowels – which, naturally, also causes the characteristic 'accent' of BSAE (Goldstein & Iglesias, 2004; Makalela, 2004).

Table 4.2: Phonological variations in vowel productions produced by the participants *(n = 15)*.

African Language Family (ALF)	First language of participants	Number of participants in each sub-section of the ALF's	Vowels of first language *	Usage in BSAE with an example if present
Nguni	Zulu	2	[i] [e] [ɛ] [a] [ɔ] [o] [u]	[fɪŋgə] Not elicited [tɛləfəːʊn] [haʊs] Not elicited Not elicited [bluː]
Sotho	Northern Sotho	4	[i] [e*ff*] [ɛ*f*] [ɛ] [a] [ɔ] [ɔ*f*] [o] [o*f*] [u]	[fɪŋgə] Not elicited Not elicited [tɛləfəːʊn] [haʊs] Not elicited Not elicited Not elicited Not elicited [bluː]
	Setswana	4	[i] [e] [ɛ*f*] [ɛ] [a] [ɔ] [ɔ*f*] [o] [o*f*] [u]	[fɪŋgə] Not elicited Not elicited [tɛləfəːʊn] [haʊs] Not elicited Not elicited Not elicited Not elicited [bluː]
Sotho	Southern Sotho	1	[i] [e*f*] [e] [ɛ*f*] [ɛ] [a] [ɔ] [ɔ*f*] [o] [o*f*] [u']	[fɪŋgə] Not elicited Not elicited Not elicited [tɛləfəːʊn] [haʊs] Not elicited Not elicited Not elicited Not elicited [bluː]
	Venda	1	[i] [ɛ] [a] [o] [u]	[fɪŋgə] [tɛləfəːʊn] [haʊs] Not elicited [bluː]

	Xitsonga	3	[i] [ɛf] [ɛ] [a] [ɔ] [o] [u]	[fɪŋgə] Not elicited [tɛləfəːʊn] [haʊs] Not elicited Not elicited Not elicited

* The transcription of vowels was based on vowel charts for the individual African languages that have been modelled on recommendations by the *International Phonetic Association* (Le Roux, 2005; Jones & Mollema, 2005).

As depicted in Table 4.2, all participants evidenced vowel variations. Once again it must be noted that these variations were based on perceptual decisions by White South African speakers of English, and only in single words elicited by the *Goldman-Fristoe Test of Articulation* (Goldman & Fristoe, 1986). Both the researcher and the rating assistant were, however, trained to listen analytically.

These findings differ from those of Table 4.1 where seven of the participants exhibited consonant variations. This discrepancy may, in all probability be attributed to the fact that vowels are more susceptible to mother tongue influence and that PV in vowels are more characteristic of BSAE than consonants and vowels could be the primary carriers of the perceptual cues that causes listeners to perceive the characteristic qualities often called 'accents' whereby dialects and lesser language variations are identified. Conclusive opinions about these issues, however, fall outside the scope of this study.

According to Jones and Mollema (2005) and Lanham (1967), the Sotho-languages have a basic set of seven vowels; the Nguni-languages and Venda have a set of five basic vowels, whilst South African English (SAE) has a set of 20 vowels. African languages therefore have fewer vowels than SAE. Since BSAE is a variation of SAE, it also has 20 vowels, but the influence of the mother tongue on phonological variations cannot be denied, and may be a precursor of the variation in pronunciation of the vowels of BSAE (Bland-Steward, 2005: Makalela, 2004; Van der Walt & Van Rooy, 2002). This difference in the number of vowels as well as the place and manner of articulation, may explain the occurrence of phonological variations during the production of vowels in all 15 participants in the current study.

It is to be expected that a phonetic transcription of the vowels in BSAE may render more than the number of vowels previously cited for the different African languages, simply because of the much larger number of vowels in the targeted English. This implies that the *production* of some, but not all, vowel qualities of White South African English are mastered at the Grade 4 level of teaching with ELoLT. It should however, never be assumed that these learners are not able to *perceive* the twenty different qualities of White South African English. This is part of the reason why these productions cannot be described as 'wrong'.

The results of this study clearly show that some of vowel features of the participants' first language persist in BSAE. The vowel inventories of Black languages categorised as belonging to the same group, e.g. Nguni or Sotho, show striking similarities. There is, for instance, a significant correspondence between the vowel systems of Setswana and Sepedi, both belonging to the Sotho group of indigenous languages. The smaller number of vowels in the inventories of these languages compared to that of SAE may contribute to auditory perception with reference to the first language vowel matrix which, in turn, may lead to the production of vowel qualities within that framework. These qualities will naturally be perceived as 'different' by English first language and should rightly be called 'phonological variations', but never 'deviant speech'.

Evidence corroborating the above is to be found in published research findings regarding the acquisition of vowels in a second language; within any specific language vowel *quality* is mostly phonologically contrastive, whilst the prosodic (or supra-segmental) feature of vowel *duration* is not contrastive in the African languages (Wissing, 2002). Afrikaans, for instance, uses this feature contrastively as in the pronunciation of the word "pers" as either [pærs] or [pæ**:**rs], where the former means *press* and the latter means *purple.*

This linguistic phenomenon was confirmed in the current study where the participants exhibited difficulty with some of the vowel qualities of SAE, but even more so in producing the appropriate degree of vowel duration of the South African English standard. This phenomenon explains the majority of vowel phoneme variations reported in this investigation.

According to the traditional transfer based theories; both the *production* and *perception* of vowels are more readily transferred to the production of the vowels of the additional language if the segmental and supra-segmental features of the vowels in the two languages in question were more similar (Wissing, 2002). This statement was certainly confirmed by the findings of this study.

The above analyses and subsequent results are valid for the restricted sample elicited from the participants only and it must be assumed that a sample of spontaneous speech would have yielded more detailed information regarding the participants' vowel productions. Clinical observations by the researcher revealed that all the participants' conversational speech showed the characteristics of BSAE

The phonological abilities of the participants showed consonant and vowel variations that can be linked to mother tongue influence, and the segmental and supra-segmental characteristics of BSAE.

4.3 RECEPTIVE AND EXPRESSIVE LANGUAGE

Addressed sub-aim*: To determine the participants' receptive and expressive language abilities in English as LoLT by using sub-tests of the Clinical Evaluation of Language Functions (CELF) (Semel & Wiig, 1980).*

Data was collected by using sub-tests of the *Clinical Evaluation of Language Functions (CELF)* (Semel & Wiig, 1980). The results are presented in terms of the participants' receptive language abilities, their expressive language abilities, and an integration of their receptive and expressive language abilities.

4.3.1 Receptive language abilities of the participants

The results of the participants' receptive language abilities in English are presented in the form of the descriptive statistics on each sub-test of the receptive language of the *Clinical Evaluation of Language Functions* (CELF) (Semel & Wiig, 1980) in Table 4.3.

Table 4.3: Receptive language abilities of the participants in English *(n=15).*

Sub-test (and targeted area)	Mean	Suggested mean for Grade 4	Standard deviation	Minimum	Maximum
1. Word and sentence structure	68.8	73.08	8.9	56	81
2. Word classes	58.8	68.18	22.1	14	91
3. Linguistic concepts	73	77.27	11.1	55	86
4. Relationships and ambiguities	63.4	56.25	12.1	38	91
5. Oral directions	75.2	64	14.8	32	92
6. Spoken paragraphs	37.4	23.53	11.8	24	59

From Table 4.3 it is clear that the mean values achieved by the participants for the sub-tests *Relationships and ambiguities*, *Oral directions* and *Spoken paragraphs* were higher than the suggested mean for participants in Grade 4 (Semel & Wiig, 1980). The results obtained on the sub-tests *Word and sentence structure*, *Word classes,* and *Linguistic skills* are, however, lower than the suggested mean for Grade 4 (Semel & Wiig, 1980).

It is seems that the linguistic demands on the learner required by the first three sub-tests (*Word and sentence structure*, *Word classes,* and *Linguistic skills)* were more complex than those associated with the remaining sub-tests of the test (*Relationships and ambiguities*, *Oral directions,* and *Spoken paragraphs).* Even though the researcher presented the instructions of the different sub-tests explicitly, the instructions of the first three sub-tests required an in-depth understanding of English, since the instructions required tasks that were linguistically complex, and the participants presented with below average abilities in these three sub-tests.

4.3.1.1 Processing of word and sentence structure

As indicated in Figure 3.1 (Chapter 3) the sub-test *Processing word and sentence structure* encompasses the processing and interpretation of selected words and sentence structures, for example "*The lamp is behind the chair*". Each item in this sub-test introduced a construct of higher syntactic complexity where the participant

was required to identify the pictorial representation of each item (Wiig, Becker-Redding & Semel; 1983). The participants as a group achieved a mean score of 68.8%, which is below the suggested mean of 73.08% for Grade 4 learners. It was evident that the participants found these elements of the CELF (Semel & Wiig, 1980) difficult. The complexity of the sentences in this sub-test gradually increased and from the results it was clear that the participants struggled to understand these syntactic constructions and was therefore unable to provide the required response. According to DeKeyser (2005) grammatical complexity is influenced by three factors, namely: complexity of form, complexity of meaning and complexity of the form-meaning relationship. Regardless of the form used to express meaning, the meaning itself can pose a source of difficulty, because of novelty, abstractness or a combination of both (DeKeyser, 2005). The current results support the findings of Jarvis (2002) who states that the process of acquiring articles, classifiers, grammatical gender and verbal aspects are a complex process for first-language speakers of a language and it can be deduced that for the participants in this study – all being EAL learners – the situation is even more complex (DeKeyser, 2005; Jarvis, 2002).

According to Van Riper and Emerick (1990) and DeKeyser (2005) it is important to distinguish between language competence (the knowledge of the features and structure of language) and language performance (the use of language in communication). It is clear from the results that the opaqueness of the form-meaning relationships in English as LoLT could have resulted in the lower than expected mean score in this sub-test of the CELF (DeKeyser, 2005) and this may, at least in part, be ascribed to less than average English language competence of the participants in this study. In this sub-test, the CELF (Semel & Wiig, 1980) focuses on the evaluation of the participants' receptive language abilities, and the participants could rely heavily on their Basic Interaction Communication Skills (BICS). The participants' Cognitive Academic Language Proficiency (CALP) was of minor importance (Cummins, 1980) because this section of the CELF (Semel & Wiig, 1980) accentuates the importance of functional language on an individual's overall receptive language performance (Owens, 2001). It was concluded that even though the participants could rely more on their BICS, these skills could not be considered adequate for meeting the demands of the classroom situation.

It is further postulated that the participants as EAL learners with ELoLT might have had a limited vocabulary in English and also could not implement the language rules of English, which may have contributed to their poor performance in this sub-test (Le Roux, 2005). According to ASHA (1985) a continuum of proficiency exists in English in a multi-cultural population. This continuum includes proficient bilingual English speakers, speakers with limited proficiency in English, and speakers of limited proficiency in both English and the native language. Although the participants' first language abilities were not evaluated in this study, Owens (2004) proposes that different factors might influence the development of children's ability in their first language. Low socio-economical status (Owens, 2001) and the possibility of poor parental guidance (Hennop, 2004) might be contributing factors to limited first language stimulation. Even though the important role of BICS in the functional language abilities of the participants cannot be ignored, CALP will still remain the most important predictor of the participants' academic success. The results clearly indicate that the participants will not be able to meet the demands associated with the processing of word and sentence structure in the classroom context, possibly due to insufficient CALP abilities and will struggle to meet the academic demands of the classroom context.

4.3.1.2 Processing of word classes

Table 4.3 indicates that the participants obtained a mean value of 58.8% in comparison with the suggested mean of 68.18% in the sub-test *Processing of word classes* of the CELF (Semel & Wiig, 1980), which is substantially lower than the suggested mean. Each stimulus item consisted of three or four words, two of which was related by association. From these, the participant was asked to choose the two congruent words (Wiig, Becker-Redding & Semel; 1983; Semel & Wiig, 1980). Where the participant's vocabulary perhaps did not include the meaning of all the given words, he/she invariably selected the wrong words. Although the number of errors varied between the participants, all the participants did, at times, select the incorrect words and therefore performed below the suggested mean of the CELF (Semel & Wiig, 1980).

These findings may once again be explained by the mismatch that exists between the participants' BICS and CALP. Word classes fall in the domain of CALP (Cummins, 1980; Semel & Wiig, 1980) and an inability to classify and select, as well as their limited vocabulary, may explain the poor results obtained in this sub-test.

4.3.1.3 Processing of linguistic concepts

On the level of linguistic concepts (Table 4.3), the participants in this study scored a mean of 73%, once again lower than the suggested mean of 77.27% for learners in Grade 4 (Semel & Wiig, 1980). The results indicate that concepts like 'except', 'instead', 'either…or', and 'after' were not part of the participants' linguistic knowledge of English. In order to understand the results obtained in the current study it is extremely important to take into account the complex implicit differences that exist on various linguistic levels between the African languages and English (Seeff & Jordaan, 2000). Even though the same linguistic concepts may be present in the different languages, they are expressed on the level of the syntactic surface structure in vastly different ways. The implication is that it is to be expected Grade 4 learners with ELoLT will experience serious difficulties in verbalising these concepts in English. It was evident that the linguistic concepts evaluated by the CELF (Semel & Wiig, 1980) may not be fully integrated in the participants understanding of the English language system, and may be a possible explanation of the below-average results obtained in this sub-test of the CELF.

4.3.1.4 Processing of relationships and ambiguities

For the sub-test *Processing relationships and ambiguities* Semel & Wiig (1980) propose a suggested mean of 56.25%, but Table 4.3 shows that the participants performed above this mean with a score of 63.4%. In this sub-test participants were only required to respond with either 'Yes' or 'No' which may have been a less complex requirement than those of the other sub-tests. This simple request might have contributed to their improved performance. Furthermore, these results may be explained by the findings of DeKeyser (2000) who conducted a grammatical judgment test for English second language learners and found a tendency that yes/no-questions

were resistant to age-effects, and could be answered relatively easily. This method of answering questions in a closed-set manner is often implemented in the classroom situation and can be included in BICS (Cummins, 1980). Therefore, these specific results cannot be interpreted as a true reflection of the participants' processing abilities regarding relationships and ambiguities. These results, however, clearly indicates that the manner of assessment in a multi-cultural, multi-lingual population should be dynamic and should include formalised tests as well as clinical observations (Kohnert, & Goldstein, 2005).

4.3.1.5 Processing of oral directions

In terms of this sub-test of the CELF (Semel & Wiig, 1980), Table 4.3 shows above-average results (an average mean of 75.2% achieved by the participants in this study, in contrast with a suggested mean of 64%), and also that the format of instruction was easily understood by the participants. The addition of visual clues in this sub-test of the CELF (Semel & Wiig, 1980) may also have decreased the complexity of the task (Edmonston & Thane, 1992). Despite the additional visual clues in the CELF (Semel & Wiig, 1980), the results can be considered accurate if compared to literature regarding the oral culture of mother tongue speakers of the various indigenous languages (Le Roux, 2005; Le Roux 2004).

4.3.1.6 Processing of spoken paragraphs

Regarding the sub-test *Processing of spoken paragraphs* of the CELF (Semel & Wiig, 1980), Table 4.3 shows that the participants' mean results are on a higher level, namely 37%, compared to the suggested average mean of 23.3% for Grade 4 learners.

It is clear that the participants' 'functional' language played a role in the results obtained in this subsection, probably because the participants could rely on pre-learned, 'automatic' language by relying on their BICS (DeKeyser, 2005; Dawber & Jordaan, 2002).

4.3.1.7 Conclusions regarding receptive language abilities

Literature has shown that learners may function well on the level of BICS, but may not be coping on the level of CALP (DeKeyser, 2005; Dawber & Jordaan, 2002). The results clearly indicated that the participants performed well on the levels of *Relationships and ambiguities, Oral directions,* and S*poken paragraphs,* probably because the demands on their language system were basic and simple. These skills form part of their day-to-day use of English. It appears that, for this reason, the participants could cope more readily with the demands imposed by these sub-tests of the CELF (Semel & Wiig, 1980) which rely more heavily on the participants' abilities in BICS. In contrast, however, the abilities assessed in the sub-test *Word and sentence structure, Word classes,* and *Linguistic skills* required an advanced 'academic proficiency', and consequently performance in these sub-tests of the CELF (Semel & Wiig, 1980), which relied primarily on CALP, was below average.

It was clear that when a demand of an academic nature was made on the participants' LoLT; all of them were unable to meet that demand. The results indicated that the participants were able to cope on the level of their BICS, but that their CALP was inadequate. BICS, in general, is far more realistic and also easier to acquire. CALP, on the other hand, is an abstract concept that takes five to seven years – from the initial exposure to the LoLT – to develop (Owens, 2001; Cummins, 1980). These sub-tests of the CELF (Semel & Wiig, 1980) mirror the highly de-contextualized tasks that are often found in school, but do not reflect social interaction and every day use of language (Owens, 2001).

4.3.2 The participants' English expressive language abilities

The results of the descriptive statistics on each sub-test of the expressive language of the Clinical Evaluation of Language Functions (CELF) are presented in Table 4.4.

Table 4.4: Participants' English expressive language abilities *(n=15).*

Sub-test of the CELF	Obtained mean values	Suggested mean for Grade 4	Standard deviation	Minimum	Maximum
1. Word Series	99.7	100	1.3	95	100
2. Model sentences	61.2	60	13.6	40	83
3. Formulated sentences	33.7	26.04	13.8	10	63

Table 4.4 shows the means scores achieved by the participants for the different tests. *Production of model sentences* and *Production of formulated sentences* were higher than the suggested mean for grade 4. The fact that the participants' mean for *Word series* were below the suggested mean can be explained by the limited sample within which *one* participant achieved below the suggested mean for Grade 4 learners and thereby causing the low average performance of the whole group (Semel & Wiig, 1980).

4.3.2.1 Producing word series

Even though the mean of the sub-test *Producing word series* of the participants was marginally lower (99.7%) than is expected from grade 4-learners (100%) (Semel & Wiig, 1980), most of the participants (14 of 15) were able to perform the production of the word series and the results can be described as being age-appropriate. This sub-test required the participants to recite the days of the week and the months of the year (Wiig, Becker-Redding & Semel; 1983). The participants were familiar with this activity, as they often are expected to perform this type of activity in the classroom. The educational emphasis on learning by rote as well as the curriculum content of the foundation phase could be possible explanations for the good performance on this sub-test (Cummins et al., 2005; Wiig, Becker-Redding & Semel; 1983). The results indicate that the participants had mastered the production of the required word series in ELoLT.

4.3.2.2 Producing model sentences

The sub-test *Production of model sentences* asked for a verbatim repetition by the participants of sentences that was read by the researcher. The said sentences increased in terms of in semantic-syntactic complexity and word count from item to item (Wiig, Becker-Redding & Semel; 1983). The results reflected in Table 4.4 indicate that the participants were able to perform slightly better (an average mean of 61.2%) than the expected mean (60%) for their Grade 4 learners (Semel & Wiig, 1980).

Pre-existing cultural and linguistic exposure of the participants regarding imitation could have lead to the transference of these skills to English (Cummins, et al., 2005). It has been mentioned in literature that speakers of African languages have no difficulty with imitation, as historically, they primarily relied on the spoken word (Crisp, 1881; Frédoux, 1864). The history of the African people and their cultural inheritance firmly rests on a solid oral foundation (Le Roux, 2005; Le Roux 2004).

4.3.2.3 Production of formulated sentences

The mean score of 33.4% for *Production of formulated sentences* was, as reflected in Table 4.4, higher than the suggested mean of 26.04% (Semel & Wiig, 1980). In this sub-test the instructions provided were clear and concise and so were the requirements and these factors may be regarded as causative of the age-appropriate performance. The participants appeared to cope especially well with phrases and language structures that occur with a high frequency in everyday conversational speech. Social use of English, such as in this sub-test does not require any 'language-technical' application of English, and this might also have contributed to the age-appropriate mean score.

4.3.3 Language abilities of the participants

The results of the descriptive statistics on the expressive and receptive language abilities of the participants, as determined by the Clinical Evaluation of Language

Functions (CELF), were compared to provide an overview of the participants' general language abilities. These results are summarized in Table 4.5.

Table 4.5: Language abilities of the participants *(n=15).*

Language ability	Mean	Suggested mean for Grade 4	Standard deviation	Minimum	Maximum	Median
Receptive language	62.8	77.68	10.4	44	80.7	65.7
Expressive language	47.5	43.18	12.2	28.5	70	47

Even though the participants' mean (62.8%) for their overall receptive language abilities was lower than the suggested mean (77.68%) for Grade 4 (Semel & Wiig, 1980), their mean for expressive language (47.5%) was higher than the suggested mean of 43.18% (Semel & Wiig, 1980).

It is noteworthy that the participants' expressive language abilities were better than their receptive language abilities since generally receptive abilities are superior to expressive abilities (Hoff, 2005; Nippold, Scott, Norris, & Johnson, 1993; Owens, 2001). Often an ELoLT learner can cope with interacting on a functional and social level, but their fundamental understanding of the language of mutual understanding is poor, as was verified by the findings of this study (Le Roux, 2005; Owens, 2001).

4.4 PHONOLOGICAL AWARENESS SKILLS

***Addressed sub-aim*:** To determine the participants' phonological awareness skills in English, by using the Phonological Assessment Battery (PhAB) (Frederickson et al., 1997).

The results of the descriptive statistics of the participants' phonological awareness skills as determined by the Phonological Assessment Battery (PhAB) (Frederickson et al., 1997) are presented in Table 4.6.

Table 4.6: Participants' results on the Phonological Assessment Battery (PhAB) (Frederickson et al., 1997).

Sub-test	Mean (between 0-130)	Level of performance (Below Average= <70-85; Average= 86-114)	Standard deviation	Median	Minimum (between 0-130)	Maximum (between 0-130)
Fluency (Alliteration)	102	Average	10.73	104	72	114
Fluency (Semantics)	95	Average	11.3	94	76	118
Non-word reading	94.5	Average	8.4	97	77	112
Naming speed: Digits	90.7	Average	11.3	89	75	110
Alliteration	88.3	Average	13.1	92	69	100
Spoonerisms	86.5	Average	13.8	87	69	119
Rhyme	80.1	Below average	9.9	77	69	99
Naming speed: Pictures	77.3	Below average	8.6	79	69	97
Fluency (Rhyme)	74.4	Below average	8.8	69	69	94

As depicted in Table 4.6, below average means were obtained in the following sub-tests: *Rhyme, Naming speed: Pictures,* and *Fluency: Rhyme.* The results of the phonological awareness skills *Alliteration, Spoonerisms, Non-word reading, Naming speed: Digits, Fluency: Alliteration,* and *Fluency: Semantics* manifested on an average level of performance for Grade 4 (Frederickson et al., 1997).

The participants found the alliteration tasks easy to complete, as reflected by their above average score of 88.3 (Frederickson et al., 1997). This is in accordance with the literature (Ball, 1993) stating that this ability is at the elementary end of the continuum of development of phonological awareness, and is described as the most basic phonological awareness skill (Ball, 1993). However, the participants struggled with tasks relating rhyme where they attained a below average score of only 80.1 (Frederickson et al., 1997). In monolingual children rhyme (together with alliteration) is described as a basic phonological awareness skill (Ball, 1993; Adams, 1990). The

results of this study, however, rather substantiate the findings of local studies that found rhyming activities to be difficult for ELoLT learners (Haarhoff, 2001; McCord; 2000).

Table 4.7 compares the order of proficiency found in international literature, a local study and the current study (the indicated order is descending, with 1 indicating the highest degree of proficiency).

Table 4.7: Order of proficiency in phonological awareness skills.

International literature (Adams, 1990; Ball, 1993) (Monolingual populations)	**Local study (McCord, 2000)** (Grade 1-learners in a multi-lingual context)	**Current study** (Grade 4-learners in a multi-lingual context)
Rhyme (1)	Alliteration (1)	Alliteration (1)
Alliteration (2)	Rhyme (2)	Substitution Spoonerisms) (2)
Substitution (3)	Substitution (3)	Rhyme (3)

In this study the participants' development of rhyme in ELoLT lags behind compared to rhyme development in children reported in international literature. A possible explanation is that rhyme does not appear in the African languages as it is found in first language English speaking cultures (Naudé, 2005; McCord, 2000). Exposure to rhyme of the participants in this study – many of whom appeared to use English in the classroom situation as LoLT only – might have been limited. On the other hand, the repetitive nature of sounds in neighboring words (alliteration) in traditional African songs may explain the good performance of the participants in alliteration tasks (Naudé, 2005; McCord, 2000). In this regard the participants' skills in their first language might have been transferred to English, thus enabling them to achieve the high score of 102 (Table 4.6) in the subtest *Fluency: alliteration.* The participants were required to provide words starting with the sound [m]. The participants offered a few words in English, but in the majority of cases presented traditional African names e.g. *Moses*, *Mpho, Mandla, Msweni*, and *Mdaka*.

The participants' performance on the sub-test *Spoonerisms* was on an age-appropriate level with a score of 86.5 (Frederickson, et al., 1997). Spoonerisms involve the processes of analysis, substitution and synthesis (Frederickson, et al.,

1997). This section was divided into two parts: Part 1 used semi-spoonerisms: participants were asked to replace the first sound of a word with another sound to produce a word of different meaning (e.g. changing *cot* to render *got*). Part 2 used full spoonerisms: participants were asked to exchange initial sounds in two words (e.g. *sad cat* to produce *cad sat*). Although the participants' score in this sub-test was on par with the suggested average (Frederickson et al., 1997), most of the participants were able to complete only Part 1 (semi-spoonerisms), and struggled with Part 2.

The participants scored better (86.5) (Table 4.6) in Part 1 of the section Spoonerisms (which in effect implies the substitution of one sound with another*)* than in the rhyming tasks (*Rhyme* 80.1 and *Fluency: rhyme* 74.4*)* (Table 4.6) of the PhAB (Frederickson et al., 1997). This finding is contrary to the findings of McCord (2000) where the participants scored higher in the rhyming than in substitution activities. The explanation for this apparent discrepancy probably lies in the age difference between the two groups of participants in question – McCord (2000) selected Grade 1-learners, whereas the participants in the current study were Grade 4-learners. Spoonerisms require complex skills in phoneme manipulation and develops with formal schooling in reading and spelling (Ball, 1993). This concurs with the findings of Swank (1990) who mentioned two stages of phonological awareness: The fist stage occurs before formal reading instruction is instituted – as found in the Grade 1-participants in the study of McCord (2000), whilst the second stage of phonological awareness develops as a result of learning to read (Swank, 1990). The better performance in of the participants in the current study compared to the participants in the McCord study (2000) can thus be attributed to the longer period of exposure of the participants in the current study to reading and spelling instruction.

The participants' mean score of 94.5 (Table 4.6) in the sub-test *Non-word reading* was found to be on an age-appropriate level (Frederickson et al., 1997). This result is conspicuous when compared to the participants' reading abilities. It is possible that their reading ability of non-words was on this (unexpected) age-appropriate level due to the presentation of single, uncomplicated, easy to comprehend units. Some mistakes did occur in instances of first language influence on the pronunciation of the non-word items (Le Roux, 2005).

The mean score of 90.7 (Table 4.6) for the sub-test *Naming speed: Digits* was on an average level (Frederickson et al., 1997), whilst the score of 77.3 (Table 4.6) for the sub-test *Naming speed: Pictures* was below average (Frederickson et al., 1997). The sub-test *Naming speed: Digits* required the implementation of automatic expression, not requiring any understanding by the participants of the digits presented. Only visual identification and verbal production of the digits were required. As this type of activity is part of the rote learning activities in the class, the participants were familiar with the required activity. The fact that the score for *Naming speed: Pictures* was below the suggested average (Frederickson, et al., 1997) can possibly be ascribed to the fact that most of the participants are from low socio-economic communities which might have lead to limited exposure to pictures and activities involving pictures (Hennop, 2004). Also, the participants might not have been familiar with activities where pictures constituted the only input, with no verbal facilitators. Limited exposure to pictures and activities involving pictures may have contributed to this below average score.

The results discussed above clearly indicate three sub-tests (namely *Rhyme, Naming speed: Pictures,* and *Fluency: Rhyme*) where participants' scores were below average. On this grounds the participants' phonological awareness skills can be described as poor. Frederickson et al. (1997) states that when learners score below average on three of the PhAB sub-tests, such learners are to be considered as presenting with severe problems in the area of phonological awareness skills.

4.5 READING ABILITIES

***Addressed sub-aim*:** To determine the participants' level of reading ability in English by using informal tests designed by the researcher.

The results regarding the participants' reading abilities in English are presented below in terms of the analysed aspects, namely reading decoding and reading comprehension.

4.5.1 Participants' reading decoding abilities

The participants' reading decoding abilities were rated on the basis of the number of decoding errors and scored on a scale that was jointly developed by two statisticians

and the researcher (Appendix I) (Louw & Sommerville, 2004). The reading decoding levels for the participants are presented in Appendix M.

The types of decoding errors and the number of participants that made these errors, are listed in Table 4.8.

Table 4.8: Participants' decoding errors.

Decoding errors	Number of participants evidencing the error *(n=15):*	Percentage of participants evidencing the error
Misread words	13	86.7%
Omitted words	10	66.7%
Guessed words	8	53.3%
Repeated words	8	53.3%
Ignored punctuation	7	46.7%
Non-fluent, word-by-word reading	7	46.7%
Showed poor word recognition	3	20%
Sounded, the word, but could not pronounce it.	2	13.3%
Sounded the words	1	6.7%

According to Table 4.8, the most salient decoding errors of the participants were the misreading of words (86.7%), omission of words (66.7%), guessing of words (53.3%), repeating of words (53.3%), ignoring of punctuation (46.7%), and the separate reading of words (46.7%).

The number of decoding errors as listed in Table 4.9 was added together to arrive at a rating for the reading decoding level of the participants as *Good*, *Average*, *Poor,* or *Very poor*.

Table 4.9: Reading decoding level of each participant *(n=15).*

Reading decoding ratings			Participant number
Performance level	**Number of decoding errors**	**Percentage of participants**	
Good	2	33%	5
	2		6
	2		7
	2		13
	2		15
Average	4	47%	1
	5		3
	3		4
	3		8
	4		9
	5		10
	4		14
Poor	6	13%	11
	6		12
Very poor	10	7%	2

According to Table 4.9 only 33% of the participants can be considered as being good readers who are able to use reading decoding when reading a given passage, and based on this finding it can be inferred that the remaining 67% of the participants experienced difficulties in the domains of CALP (which include both their oral and written language) (Broom, 2004) and that these difficulties may have a direct negative effect on their academic performance (Broom, 2004; Owens, 2001).

Of the participants, 33% (Table 4.9) were described as being on the *instructional level* (Pretorius, 2002) of reading (*Good* in the current study). The remaining 67% (Table 4.9) of the participants were described as being on the *frustration level* of reading (*Average, Poor,* or *Very poor* in the current study) since they read with less than 90% decoding accuracy (Pretorius, 2002; Lesiak & Bradley-Johnson, 1983). Considering the participants' level of reading decoding, their reading abilities were not viewed as

adequate for academic progress and they were judged to be candidates for additional reading instruction with the aim to improve their reading level (Devine, 1988).

The obtained results can be explained by a number of possible factors. Firstly, one of the principles of OBE is that reading is not instructed on a formal level, but that it should happen incidentally (Broom, 2004; Muter & Diethelm, 2001). Though it was not focused upon in the current study, some of the participants may have been from backgrounds where little or no attention is given to the development of the pre-literacy skills which are important predictors of later success in reading (Carrol, Snowling, Hulme, & Stevenson, 2003; Catts, 2001).

Judged by the type of mistakes the participants in this study made it is clear that, as a group, they experienced word attack as difficult – they were at a loss when confronted by a new word. Phoneme-grapheme relationships were not developed to a level where they knew what the graphic representation of a specific phoneme was. This underdeveloped ability was conspicuous in their spelling skills. Inadequacy in these skills have a detrimental effect on performance in tasks requiring reading decoding and this inadequacy will lead to poor general reading abilities (Durgunoglu, 2002).

In this study, the participants were familiar with the passage used for the required reading task as the researcher selected a curriculum-based passage from the participants' Grade 4 reader. Tractenberg (2002) concluded that memory plays an important role in the reading success of an individual but, in this study, difficulty in reading decoding was still present despite the fact that the participants were familiar with the passage. Research findings strongly suggest that insufficient awareness of the phonological structure of spoken words is associated with poor reading abilities (Muter & Diethelm, 2001; Porpodas, 1999). This should be taken into consideration as a possible explanation for the poor reading abilities identified in this study.

The participants' poor results regarding the correct use of punctuation marks (Table 4.8) may be linked to their poor phonological awareness skills regarding grapheme-phoneme relationships (Carroll & Snowling, 2004). Proper decoding of punctuation marks in written language will lead to appropriate supra-segmental changes in the

verbal rendition of the printed text (Durgunoglu, 2002; Boone & McFarland, 1994). This skill proved to be absent in this study.

4.5.2 Participants' reading comprehension abilities

Multiple choice-questions, designed by the researcher (Appendix H), were used to determine the participants' reading comprehension. The pertaining results are summarised in Table 4.10.

Table 4.10: Reading comprehension abilities.

Reading comprehension score	Number of participants (n= 15)	Percentage of participants
10/10	9	60.00%
9/10	4	26.70%
8/10	0	0.00%
7/10	1	6.70%
6/10	0	0.00%
5/10	1	6.70%
4/10	0	0.00%
3/10	0	0.00%
2/10	0	0.00%
1/10	0	0.00%
0/10	0	0.00%

The high scores obtained in the reading comprehension test can be attributed to the fact that the participants were familiar with the content of the passage (as mentioned under 4.5.1.). These scores can therefore not be considered as representative of their true reading comprehension abilities since memory probably played a significant role in the outcomes (Tractenberg, 2002). The use of multiple-choice questions could have lead to participants' guessing the correct answer. Furthermore, these questions were straightforward, posing a relatively low linguistic demand (Geva, 2000).

It is important to note that there is no correlation between the results of the decoding and comprehension abilities of the participants. Literature related to these skills

indicates a learner's decoding skills will determine his/her comprehension skills (Owens, 2001; Pretorius, 2002; Liberman; Hacquebord, 1994; Schankweiler & Liberman; 1989), but in this study the participants' comprehension abilities were better than anticipated when compared to their decoding skills. These results can be explained by considering the type of questions that were asked to determine reading comprehension skills. These questions only addressed content or literal comprehension and higher order comprehension of language received limited attention (Pretorius, 2002). The questions were designed to correspond to the type of questions that are used in the school system. The school system does not concentrate on questions which require higher order, inferential strategies (Pretorius, 2002; Solarsh, 2002). Because the researcher read the questions to the participants the questions focused on the oral mode (Broom, 2004) of information transmission (Solarsh, 2002), on rote-learning and the verbatim recall of information (Pretorius, 2002). This may be possible explanations for the participants' higher than expected scores on the comprehension test.

Because the participants in this study receive their schooling in a language that is not their first, it may be assumed that the learners' limited reading comprehension skills have their origin in limited general language proficiency and that this limitation may have impacted negatively on academic performance (Pretorius, 2002).

4.6 SPELLING ABILITIES

***Addressed sub-aim*:** To determine the participants' spelling ability in English by using an informal test designed by the researcher.

The participants' spelling was evaluated through an informal test designed by the researcher. A selection of words from the participants' spelling list used in Grade 4 was compiled to ensure that the spelling test was curriculum based (See appendix J). Examples of incorrectly spelt words and analysis of the spelling mistakes are illustrated in Table 4.11.

Table 4.11: Spelling mistakes and analysis of the mistakes

Target word	Participant number	Error	Analysis
Adventures	2	*Advertureds*	Substitution of the 'n' with the 'r'-grapheme
	3	*Adveches*	Substitution of the 't' with the 'ch'- grapheme
	10	*Adventsas*	Substitution of the 't' with the 'ts'-grapheme
	11	*Adeventured*	Addition of the 'e-grapheme
	12	*Adveacurs*	Substitution of 'nt' with the 'a'-grapheme
Highway	10	*Highwy*	Deletion of the 'a'-grapheme
	13	*Hogway*	Substitution of the 'i' with the 'o'-grapheme
Improvements	2	*Im…*	Word too complex
	12	*Improufmenst*	Substitution of the 'v' with the 'u'-grapheme and exchange of the 'ts' with the 'st'-grapheme
	13	*Improvments*	Deletion of the 'e'-grapheme
	14	*Improvemeets*	Substitution of the 'n' with the 'e'-grapheme
Introduced	2	*In-*	Word too complex
	3	*Intiduted*	Deletion of the 'r' and the substitution of 'c' with a 't'-grapheme
	5	*Inroduced*	Deletion of the 'd'-grapheme
	8	*Introduecd*	Addition of the 'e'-grapheme
	9	*Introduct*	Omission of the 'e'-grapheme
	10	*Idradust*	Omission of the 'n' and 't'-grapheme and substitution of the 'ced'-graphemes with the 'st'-graphemes
	11	*Intredes*	Substitution of the 'o' with an 'e'-grapheme and the 'u' with an 'e'-grapheme and substitution of the 'uc' with the 'es'-graphemes
	12	*Introguse*	Substitution of the 'd' with the 'g'-grapheme and the 'c' with the 's'-grapheme
	13	*Inroduced*	Omission of the 't'-grapheme
Seashore	11	*Seeshore*	Substitution of the 'a' with the 'e'-grapheme
	13	*Seoshore*	Substitution of the 'a' with the 'o'-grapheme
	14	*Seashor*	Deletion of the 'e'-grapheme
Skilful	3	*Skulful*	Substitution of the 'i' with the 'u'-grapheme
	12	*Skulful*	Substitution of the 'i' with the 'u'-grapheme
Supported	1	*Suported*	Omission of the 'p'-grapheme
	2	*Suppontend*	Substitution of the 'r' with the 'n'-grapheme and addition of the 'n'-grapheme
	3	*Sepoted*	Substitution of the 'u' with the 'e'-grapheme, omission of the 'r'-grapheme
	10	*Sappoted*	Substitution of the 'u' with the 'a'-grapheme, omission of the 'r'-grapheme
	13	*Saported*	Substitution of the 'u' with the 'a'-grapheme, omission of the 'p'-grapheme

Target word	Participant number	*Error*	Analysis
Tideless	10	*Tidelese*	Substitution of the 's' with the 'e'-grapheme
	11	*Teddeless*	Substitution of the 'i' with the 'e'-grapheme and an addition of a 'd'-grapheme
	13	*Tiddes*	Addition of a 'd'-grapheme and a deletion of the 'les'-graphemes
Ventured	3	*Venched*	Substitution of the 't' with the 'ch'- grapheme
	10	*Ventude*	Substitution of the 'r' with the 'd'-grapheme and the deletion of the 'd'-grapheme
	12	*Venched*	Substitution of the 't' with the 'ch'-grapheme
	2	*Voyeges*	Substitution of the 'a' with the 'e'-grapheme
	6	*Voyeges*	Substitution of the 'a' with the 'e'-grapheme
	10	*Vayeges*	Substitution of the 'o' with the 'a'-grapheme and the 'a' with the 'e'-grapheme
	11	*Veggas*	Omission of the 'oya'-graphemes and addition of the 'eg'-graphemes
	12	*Vogyse*	Deletion of the 'ya'-graphemes, substitution of the 'e' with the 'y'-grapheme and addition of the 'e'-grapheme
	13	*Voyagas*	Substitution of the 'e' with the 'a'-grapheme

As seen from the examples of incorrectly spelled words and the analysis of the mistakes in Table 4.11, twelve of the participants used substitutions, omissions, deletions and additions of letters in their spelling attempts.

Many factors may have influenced the spelling abilities of the participants and may range from mother tongue influence (Makalela, 2002), the opaqueness of English (Seeff & Jordaan, 2000), the phonological context, poor phonological awareness skills, and the instruction in the classroom.

As seen in Table 4.11, the participants' mother tongue appeared to influence the spelling of the words. As English is not the learners' first language they were obliged to spell in a language alien to them. The participants created new rules in order to make sense of spelling. They chose a specific grapheme to represent a series of phonemes (e.g. *venched*). When a specific sound can be represented by two or more graphemes, some of the participants selected one grapheme to represent a combination of graphemes.

The participants did not implement the correct spelling rules, but created rules that were easier to apply and that in all probability made more sense to them. This may be due to the complexities (sometimes referred to as 'opaqueness' of the English spelling system (Seeff & Jordaan, 2000). (One example illustrating this complexity is found when one ponders the spelling of the English word *fish,* pronounced [fɪʃ] – but consider the forms *enough,* where 'gh' is pronounced [f], *women*, where 'o' is pronounced [ɪ], and *national* where 'ti' is pronounced [ʃ]. In the light of these examples an enterprising novice may very well write down 'ghoti' when asked to spell *fish*!) (Tesner, 2005).

A further possible explanation for the participants spelling errors is that the phonetic context has an influence on spelling. The phoneme are not represented by the correct grapheme, correct, but spelled, almost 'phonetically', according to what the participant perceives on an auditory level (e.g. *ventured*: *venched,* which is not surprising, because the sound/phoneme [tʃ] is often spelled as 'ch' in words like *chat, chop, chew* and many more). The results revealed that the participants spelled words the way they heard them, without application of spelling rules. It seems, from these results almost certain that the participants' spelling is negatively impacted by their poor phonological awareness skills in English. This corroborates the ideas of, among others, Van Kleeck et al., (1998); Larrivee and Catts, (1999), and Hodson, (1998). The above explanations are clearly to be found within the learners themselves, *but* instruction in the classroom (an external influence) may also be an important factor that negatively impacts on spelling ability. For instance, the learner was taught that words like *chop*, *chips*, *chocolate*, and so forth are spelled with 'ch'. It stands to reason that learners having been taught the above, may assume that the [tʃ] in words like *venture, tune,* and the like will be spelled accordingly, using the grapheme combination 'ch'. Most learners are not actually taught to spell, and spelling happens 'incidentally'.

4.7. CORRELATIONS BETWEEN PARTICIPANTS' ABILITIES IN PHONOLOGY, LANGUAGE, READING, SPELLING, AND PHONOLOGICAL AWARENESS SKILLS

***Sub-aim addressed*:** To determine correlations between the participants' phonology abilities, language abilities, phonological awareness skills, reading abilities, and spelling abilities by using the Mann-Whitney Test and the Spearman Correlation Coefficient (Louw, 2005; Anderson, et al., 2003; Keller & Warrack, 2000).

Analysis of the data obtained from the participants' scores on the various assessments, rendered a number of interesting relationships between the participants' performance on the different tests (Table 4.12). The parametrical *Mann-Whitney Test* (Keller & Warrack, 2000) and the non-parametrical *Spearman Correlation Coefficient* (Keller & Warrack, 2000) were used to determine whether significant correlations exist between the different abilities and phonological awareness skills of the participants (Louw, 2005; Anderson et al., 2003; Keller & Warrack, 2000). A *p*-value was calculated to determine whether there was a significant correlation between a specific ability and the participants' phonological awareness skills (Louw, 2005).

Statistical analysis of the findings (Appendix O) revealed a range of statistically significant and statistically insignificant correlations. These are reflected in Table 4.12.

Table 4.12: Correlations between the participants' phonological abilities, language abilities, phonological awareness skills, reading abilities, and spelling abilities.

PhAB-subtests	Statistical method: Mann-Whitney Test (MWT) or Spearman Correlation Coefficients (SCC):					
	MWT	SCC	SCC	MWT	SCC	SCC
	Phonology	Receptive language	Expressive language	Reading decoding	Reading comprehension	Spelling
Alliteration	0.4638	0.4258	0.4926	0.1705	0.9092	0.516
Rhyme	0.2006	0.5872	0.5391	0.2174	0.8023	0.0803
Spoonerisms	0.0551	0.0119	0.0314	0.0204	0.5400	0.0051
Non-word reading	0.1447	0.4433	0.2070	0.0495	0.8443	0.6939
Picture naming	0.1348	0.1045	0.0219	0.3706	0.8785	0.1566
Digit naming	0.1176	0.1103	0.0205	0.0509	0.4297	0.0542
Alliteration fluency	0.1314	0.4038	0.0131	0.3110	0.4141	0.9456
Rhyme fluency	0.1276	0.2508	0.2032	0.1951	0.5518	0.0157
Semantic fluency	0.6398	0.2779	0.3223	0.8268	0.9913	0.7827
Combination of sub-tests	0.0279	0.0284	0.0103	0.0304	0.9598	0.0358

Key: No Correlation Noteworthy Correlation

Table 4.13 shows the correlations drawn between phonology ability and the different sub-tests of the *Phonological Awareness Battery* (Frederickson et al., 1996). This is in compliance with literature which states that the phonological abilities of a learner may have an influence on the phonological awareness skills of that learner (Carol, Snowling, Hulme & Stevenson; 2003; Rvachew, Ohberg, Grawburg & Heyding, 2003; Bird & Bishop, 1995).

It is important to note that the correlation between phonology and spoonerisms rendered a *p*-value of 0.0551 which, while close to the cut-off line, cannot be regarded as significant.

4.7.2 Correlations between language abilities and phonological awareness skills of participants

The correlation between receptive language abilities and phonological awareness skills on the one hand, and between expressive language abilities and phonological awareness skills on the other, were determined. The findings are discussed below.

4.7.2.1 Correlations between phonological awareness skills and receptive language abilities of participants

From Table 4.12 it is clear that there were significant relationships (both the *p*-values were found to be between 1% and 5 %) between the participants' receptive language abilities and spoonerisms, and the participants' receptive language and their overall phonological awareness skills. All the other results showed a *p*-value of greater than 5%, and therefore were not statistically significant.

It is seems clear that if a participant's language abilities are not on an age-appropriate level, that participant's phonological awareness skills will also not be age-appropriate. This is in accordance with literature that states that the participants' understanding of language is linked to phonological awareness, which is a predictor of the development of literacy (Catts, 1993; Bishop & Adams, 1990). These findings show how vitally

important an improvement in the level of language development in English is for these participants from a multi-cultural, multi-lingual society, but with ELoLT.

4.7.2.2 Correlations between participants' phonological awareness skills and their expressive language abilities

In Table 4.12 it is important to note that there are four PhAB-subtests (*Spoonerisms, Picture naming, Digit naming,* and *Alliteration fluency*), and general phonological awareness skills that show significant correlations with expressive language. All the other results showed a *p*-value of greater than 5%, and were not statistically significant.

As previously stated in regard to receptive language, it is clear that language development and phonological awareness skills will influence each other. Poor language development provides a poor basis for the development of higher meta-linguistic skills such as those of phonological awareness (Cooper, Roth, Speece & Schatschneider; 2002).

4.7.3 Correlations between participants' reading abilities and phonological awareness skills

Correlations between the participants' reading decoding and reading comprehension abilities and phonological awareness skills were determined (Table 4.12) and are discussed below.

4.7.3.1 Correlations between participants' reading decoding abilities and phonological awareness skills

As seen in Table 4.12, there is strong evidence of correlations between the participants' spoonerisms and reading decoding abilities, the participants' non-word

reading and reading decoding abilities and between the participants' reading decoding and general phonological awareness skills (PhAB). The correlations between these variables are verified by the *p*-value of between 1% and 5 % (between 0.02 and 0.05). These results confirm research findings which state that phonological awareness will determine the success of reading decoding (Catts, Fey, Zhang, & Tomblin, 1999; Larrivee & Catts, 1999; Hodson, 1998; Scarborough, 1998; Van Kleeck, Gillam, & McFadden, 1998; Magnusson & Naucler, 1990).

All the other results showed a *p*-value of greater than 5%, and are therefore not statistically significant. It is important to note that the correlation between reading decoding and digit naming scored a *p*-value of 0.0509, which renders this relationship not significant.

4.7.3.2 Correlations between participants' reading comprehension abilities and phonological awareness skills

In terms of these correlations it is interesting that all the *p*-values were greater than 5%. This indicates that there was no significant relationship between the scores in the sub-tests and reading comprehension (Table 4.12). This is contrary to research that has shown that phonological awareness skills are the single best predictor for reading success (Roth & Baden, 2001; Larrivee & Catts, 1999; Scarborough, 1998; Van Kleeck, Gillam & McFadden, 1998). The fact that there is no significant correlation between the participants' reading comprehension and phonological awareness skills may be due to the shortcomings in the informal reading test designed by the researcher (3.6. and Appendix H). These results cannot be seen as accurate enough to be generalised to the broader population.

4.7.4 Correlations between participants' spelling abilities and phonological awareness skills

Table 4.12, reflects a highly significant correlation between the participants' spoonerisms and spelling abilities, since the *p*-value is less than 1%. There is a strong evidence that there are correlations between the participants' rhyme fluency

and spelling abilities and their spelling and general phonological awareness skills –a *p*-value of between 1% and 5 % (between 0.02 and 0.05) were determined, indicating that spoonerisms, rhyme fluency and general phonological awareness skills may play a role in spelling success.

All the other results showed a *p*-value of greater than 5%, indicating no statistical significance.

The above discussion shows strong evidence that correlations can be drawn between the participants' phonological awareness skills and phonological abilities, between phonological awareness skills and receptive and expressive language, between phonological awareness skills and reading decoding abilities, and also between phonological awareness skills and spelling abilities. This corroborates with literature (Roth & Baden, 2001; Larrivee & Catts, 1999; Van Kleeck, Gillam & McFadden, 1998; Clarke-Klein & Hodson, 1995; Magnusson & Naucler, 1990).

4.8 SUMMARY

In Chapter 4 the results were discussed for each sub-aim specified for the study. The results were presented in figures and tables, and discussed and compared to the current body of knowledge on phonological awareness skills of the learner in a multi-cultural, multi-lingual context with ELoLT.

From the results it is clear that approximately half of the participants evidenced consonant variations in their production of target words and all the participants evidenced vowel variations. Regarding the participants' receptive and expressive language abilities their BICS language abilities were appropriate, but the development of their language abilities to the level of CALP's, were not age-appropriate. The results obtained regarding the participants' phonological awareness skills were below average and could be correlated with their language abilities. Reading decoding results were not age-appropriate but reading comprehension was on an age-appropriate level. This last finding can, however, be explained by a methodological error in terms of the data-collection instrument designed for this specific part of the

study (3.6 and Appendix H). Spelling abilities were not on an age-appropriate level and these findings can be explained by a number of factors, as discussed earlier in this chapter. In the final section of this chapter the results were discussed in terms of statistical correlations between them.

4.9 CONCLUSION

By conducting research on learners in the multi-cultural, multi-lingual South African context, new insights were gained into these learners' phonological, language, reading, and spelling abilities, and their phonological awareness skills. These results showed the urgent need for more research in the field of multi-cultural, multi-lingual contexts as is found in South Africa. The results highlighted the challenges which confront these learners within the OBE system, and the important role of the speech-language therapist in this setting.