

**THE COMPREHENSION AND PRODUCTION OF
LATER DEVELOPING LANGUAGE
CONSTRUCTIONS BY AFRIKAANS-, ENGLISH-
AND ISIXHOSA-SPEAKING
GRADE 1 LEARNERS**

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DECLARATION

By submitting this dissertation electronically, I declare that the entirety of the work contained therein is my own, original work, that I am the owner of the copyright thereof (unless to the extent explicitly otherwise stated) and that I have not previously in its entirety or in part submitted it for obtaining any qualification.

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ABSTRACT

This study investigated the comprehension and production of articles, quantifiers, binding relations and passive constructions as later developing constructions (LDCs) by 27 Grade (Gr) 1 monolingual Afrikaans-speaking learners with Afrikaans as language of learning and teaching (LOLT), 31 bilingual isiXhosa-speaking learners with English as LOLT and 31 monolingual isiXhosa-speaking learners with isiXhosa as LOLT in three non-fee-paying schools, each in a different low socio-economic status area, in the Stellenbosch area of the Western Cape Province in South Africa. The overarching aim of this study was to determine which LDCs these learners are capable of comprehending and producing at the start of Gr 1 and what progress they make in terms of these LDCs during their Gr 1 year. The English and isiXhosa LOLT groups were then compared on how they fared on the LDCs in their respective LOLTs in order to ascertain whether the English language proficiency of the English group is at such a level at the start of Gr 1 that they can, without disadvantage, undergo schooling successfully in English. Data were collected on articles, binding relations, quantifiers and passive constructions by using the informal language assessment instrument, the *Receptive and Expressive Activities for Language Therapy* (Southwood & Van Dulm 2012a), which makes use of picture selection- and pointing tasks for assessment of comprehension and sentence completion, picture description- and question answering tasks for assessment of production. The results showed that for the Afrikaans and English groups all four LDCs are indeed later developing and are only mastered after the end of Gr 1. For the isiXhosa group, quantifiers and passive production are mastered by the end of Gr 1. In terms of the language-in-education and teaching policy, the results show that the time allocated to listening to and producing language in Gr 1 is sufficient for children whose first language is also their LOLT, whereas it is not sufficient in the case of English additional language learners. The latter group made significant progress in all LDCs assessed, but still performed worse than their isiXhosa-speaking peers, for whom there was a match between first language and LOLT. The implication of the results are that (i) the Foundation Phase school curriculum should be refined so as to consider the needs of all Gr 1 learners, as learners enter Gr 1 with different language skills and different levels of preparation for the tasks which lie before them, (ii) teachers should be assisted to foster the development of language skills in additional language learners, and (iii) the institution of a universal Gr R year, which is free to those who cannot afford school fees, should be considered a necessity. Without ensuring that all children enter Gr 1 with an adequate language foundation on which literacy development can build, historical inequalities still present in South Africa will likely be perpetuated rather than systematically removed.

OPSOMMING

Hierdie studie ondersoek die begrip en produksie van lidwoorde, kwantifiseerders, bindingsverhoudings en passiefkonstruksies as later-ontwikkelende konstruksies (LOKs) deur Graad 1 (Gr 1)-leerders. Die deelnemers was 27 eentalige Afrikaanssprekendes met Afrikaans as taal van leer en onderrig (TLO), 31 tweetalige isiXhosa-sprekendes met Engels as TLO en 31 eentalige isiXhosa-sprekendes met isiXhosa as TLO, in drie nie-skoolfonds betalende skole, elk in 'n ander area met lae sosio-ekonomiese status in die Stellenbosch-omgewing in die Wes-Kaap Provinsie van Suid-Afrika. Die oorkoepelende doel van hierdie studie was om te bepaal watter LOKs hierdie leerders in staat is om te verstaan en te produseer aan die begin van Gr 1 en watter vordering hulle in terme van hierdie LOKs maak tydens hul Gr 1-jaar. Die Engelse en isiXhosa TLO-groepe is vergelyk in terme van hoe hulle gevaar het op die LOKs in hul onderskeie TLOs, ten einde vas te stel of die Engels-taalvaardighede van die Engelse TLO-groep op so 'n vlak aan die begin van Gr 1 is dat hulle sonder benadeling hul skoolopleiding suksesvol in Engels kan ontvang. Data is ingesamel oor lidwoorde, bindingsverhoudings, kwantifiseerders en passiefkonstruksies met die informele taalassesseringsinstrument, die *Reseptiewe en Ekspresiewe Aktiwiteite vir Later-ontwikkelende Taalvaardighede* (Southwood & Van Dulm 2012a), wat gebruik maak van prentseleksietake vir die assessering van taalbegrip en van sinsvoltooiings-, prentbeskrywings- en vraagbeantwoordingstake vir die assessering van taalproduksie. Die resultate het aangetoon dat al vier LOKs wel later ontwikkelend is vir die Afrikaanse en Engelse TLO-groepe en slegs bemeester word ná die einde van Gr 1. Vir die isiXhosa-groep is kwantifiseerders en passiefproduksie teen die einde van Gr 1 bemeester. Gegee die taal-in-onderwys- en onderrigbeleid toon die resultate dat die tyd wat toegeken is aan die ontwikkeling van luister- en taalproduksievaardighede in Gr 1 voldoende is vir kinders wie se eerste taal ook hul TLO is, terwyl dit onvoldoende is in die geval van Engels Addisionele Taal-leerders. Laasgenoemde groep het beduidende vordering gemaak oor hul Gr 1-jaar in alle LOKs, maar het steeds swakker gevaar as hul isiXhosa-sprekende eweknieë wie se eerste taal en TLO ooreenstem. Die implikasies van die resultate is (i) dat die grondslagfase-skoolkurrikulum verfyn behoort te word met inagnome van alle Gr 1-leerders se taalbehoefte, omdat leerders Gr 1 betree met verskillende taalvaardigheidsvlakke asook verskillende vlakke van voorbereiding vir die take wat voorlê in Gr 1, (ii) dat onderwysers gehelp moet word om die ontwikkeling van taalvaardighede vir Addisionele Taal-leerders te bevorder, en (iii) dat die instelling van 'n universele Gr R-jaar, gratis vir diegene wat nie skoolfonds kan bekostig nie, as noodsaaklik beskou behoort te word. As daar nie verseker word dat alle kinders Gr 1 betree met 'n voldoende taalbasis waarop geletterdheidsontwikkeling kan bou nie, sal historiese ongelykhede, steeds teenwoordig in Suid-Afrika, waarskynlik eerder voortgesit as stelselmatig verwyder word.

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DEDICATION

“The limits of my language [does not] mean the limits of my world”

Ludwig Wittgenstein

For Hester Nel

Mamma, thank you for instilling in me your passion for people and education.

“Give a thought to Africa,

‘Neath the burning sun.

There are hosts of weary hearts,

Waiting to be won.

[...]

There are voices crying now,

[...]

God bless Africa,

And her sons and daughters too”

(John Knox Bokwe’s hymn “Plea for Africa”)

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ABBREVIATIONS

AP	Adverbial phrase
AAE	African American English
Adj.	Adjective
ANA	Annual National Assessment
Afr / A	Afrikaans
AM	Agreement marker
A-P	Articulatory-perceptual
AP	Absolute pronoun
ASP	Aspect
C	Complementiser
CAPS	Curriculum and Assessment Policy Statement
C-I	Conceptual-intentional
Cl	Clitic
C _{HL}	Computational system of human language
CONJ	Conjunction
COP	Copula
CPH	Critical Period Hypothesis
CP	Complementiser phrase
CQP	Counting quantifier phrase
DELV	Diagnostic Evaluation for Language Variation
DELV-CR	Diagnostic Evaluation for Language Variation Criterion-Referenced
DELV-SC	Diagnostic Evaluation for Language Variation Screener Test
DET / D	Determiner
DP	Determiner phrase
DQP	Distributive-universal quantifier phrase
ELF	English as a lingua franca
Eng / E	English
F	Female
Feb	February
FV	Final vowel
Gr	Grade
GQP	Group-denoting quantifier phrase
INFL	Inflection
IQ	Intelligence Quotient
IH	Innateness Hypothesis
IM	Interrogative marker
INT	interrogative
isiX / X	isiXhosa
Jan	January
L1	First language
L2	Second language
LA	Language acquisition
LAD	Language Acquisition Device
LDC	Later developing construction
LF	Logical Form
LOC	Location
LOLT	Language of learning and teaching
M	Male

MAE	Mainstream American English
MLU	Mean length of utterance
MP	Minimalist Program
n/a	Not applicable
n.d.	No data
n.i.	Not indicated
Nov	November
N	Noun
NC	Noun class
No/Nr	Number
NP	Noun phrase
NQ	National Quintile
NQP	Negative quantifier phrase
NSIMC	Non-subject-initial main clause
O /obj.	Object
Oct	October
OM	Object agreement marker
OVS	Object-verb-subject
OSV	Object-subject-verb
P	Preposition
PF	Phonetic Form
Pl.	Plural
PLD	Primary Linguistic Data
PAM	Predicative Adjective agreement marker
PASS	Passive
PAST	Past tense
PM	Participial mood
POSS	Possessive agreement marker
PP	Prepositional Phrase
pp	Person plural
P&P	Principles and Parameters
POSSPRN	Possessive pronoun
PPRN	Personal pronoun
PREP	Preposition
PRES	Present tense
ps	Person singular
PS	Performance Systems
Q	Quantifier
QP	Quantifier phrase
QR	Quantifier root
R	Referential
RECP	Reciprocal
REFL	Reflexive
REALt	Receptive and Expressive Activities for Language Therapy
S	Subject
SM	Subject agreement marker
SES	Socio-economic status
Sg.	Singular
SOV	Subject-object-verb
SVO	Subject-verb-object

Spec	Specifier
ST	Standard Theory
SC	Subject concord
T	Tense
TP	Tense phrase
TO	Topicalised object
UG	Universal Grammar
UNESCO	United Nations Educational, Scientific and Cultural Organization
V	Verb
V1	Verb first
V2	Verb second
V3	Verb third
VSO	Verb-subject-object
VOS	Verb-object-subject
VP	Verb Phrase
Vs.	versus
WALS	World Atlas of Language Structures
WhQP	Interrogative quantifier phrase
XP	Generic phrasal category

STATISTICAL ABBREVIATIONS

Min	Minimum score
Max	Maximum score
Std. Dev.	Standard deviation
p-value	Probability value

Chapter 1

Setting the scene: Context in language development

1.1 Background

The problems of society will also be the problems of the predominant language of that society. It is the carrier of its perceptions, its attitudes, and its goals, for through it, the speaker absorbs entrenched attitudes.

(Ndebele 1986)

The study reported in this dissertation explores the reality of language in society (albeit a limited sector thereof) and how language and society interrelate, by investigating the comprehension and production of later developing language constructions (LDCs) by Afrikaans-, English- and isiXhosa-speaking Grade 1 (Gr 1) learners¹ in three low socio-economic status (SES)² areas in the Stellenbosch area of the Western Cape in South Africa. The overarching aim of this study is to determine what LDCs these learners are capable of comprehending and producing at the start of Gr 1 and also what progress they make during their Gr 1 year in understanding and producing these constructions. This aim pertains not only to the variables of age and SES but also to two linguistic contexts: firstly, school communities in which the language of learning and teaching (LOLT) in the classroom is the same as the first language (L1) of the learners and, secondly, a school community in which the LOLT is the second language (L2) or third language (L3) of the majority of the learners. The former communities are thus monolingual in nature (in this study they were Afrikaans- or isiXhosa-speaking with Afrikaans or isiXhosa, respectively, as LOLT) and the latter community is multilingual in nature (with English as LOLT).

Although language acquisition is fast and efficient until the age of approximately 5 years, becoming a proficient speaker of one's mother tongue is an extended process which

¹ In the South African school system, school children are referred to as "learners". This convention is followed in this dissertation.

² In this dissertation, the terms "socio-economic status" and "class" will be used as synonyms. Bollen, Glanville and Stecklov (2001:157-158) state that no one theory has a monopoly on the meaning of "SES" or "class", and that there are generally two broad approaches to whether these two terms can be equated with one another. One approach is that the distinctions between the terms highlight different and separate dimensions of stratification and that different dimensions have different consequences. The other approach views class or SES as essentially a unitary concept. Because the dimensions of stratification in the literature review on how class and socio-economic status affect literacy are the same, the terms are treated as synonymous here.

continues up to approximately the age of 9 years (Berman 2004:10). This later language development (i.e., that pertaining to LDCs) includes the ability to use low frequency structures such as passive constructions, as well as a gradual increase in the use of subordinate clauses, past perfect marking, modal auxiliaries, low-frequency adverbial conjunctions (Nippold 2004:3) and noun phrase elaboration (Khorounjaia & Tolchinsky 2004).

National assessments and several independent studies have shown that young children in South Africa have low literacy levels (Olivier 2009; Report on the Annual National Assessments 2011). Klop and Tuomi (2007), amongst others, point out that these poor literacy skills are linked to poor language skills, specifically to an inability to comprehend and produce some of the abovementioned LDCs used by the children's teachers in the classroom. Upon entering school, children start receiving exposure to classroom discourse (i.e., more formal spoken discourse and writing), they are exposed to more complex syntax and morphology, and they have the opportunity to analyse these constructions by means of their own language practices and cognitive skills (Nippold 2004:6). In this way, metalinguistic competence influences language skills. (Note that some of the children in this study received exposure to classroom discourse in a language unfamiliar to them, i.e., in a LOLT that is not their L1.) Huttenlocher (cited in Scott 2004) indicates that children acquire greater syntactic proficiency if their teachers frequently employ multi-clausal utterances rather than simplified speech (Nippold 2004:6). The type of language input received therefore plays an important role in the development of language skills and subsequently of literacy. There is thus an "on-going, cyclical relationship between literacy and later language development (Berman 2004; Clark 2000; Huttenlocher, Vasilyeva, Cymerman, Levine 2002; Pacton & Fayol 2004; Raph 1971; Scott 2004), a process that is heavily supported by metalinguistic competence and [language input – JHN]" (Nippold 2004:6).

Literacy and language skills are also affected by the socioeconomic circumstances in which children are situated. Children growing up in low SES environments may be poverty-situated not only in terms of their physical conditions but also in terms of the development of language and literacy skills (Aram & Biron 2004; Farran 1982; Klop & Tuomi 2007; Korat 2005; Lee & Burkam 2002; Tough 1982). Tough (1977, in Tough 1982:6) reports on the

language development of children between the ages of 3 and 7;6 years,³ who come from different social environments. From this study, two main findings emerged. In terms of complex language structures, the children of educationally advantaged parents (i.e., parents who had received higher education and had an occupation of comparable status) scored higher than the children of educationally disadvantaged parents (i.e., parents who had received minimum education and were unskilled or semi-skilled manual workers). Both groups of children used complex language structures, but the children of educationally disadvantaged parents did so less frequently, because the purpose of such utterances was less meaningful to them. Tough (1982:13) states that “children from disadvantaged sections of the community [do not – JHN] generally lack language but their expectations about using language do not support learning”. The language and socialisation style that children are exposed to therefore firstly influences the type of language that the child will finally master and secondly propagates certain information-processing strategies that affect later learning (Farran 1982:25). Children who come from low SES backgrounds and receive their education in their L1 may thus be disadvantaged in terms of obtaining proper literacy levels due to the type of language to which the child had been exposed; however, children who come from low SES backgrounds and receive their education in their L2 or L3 may be at a greater disadvantage than both those from a higher SES and those from a low SES who receive their education in their L1. The reason for this is that not only a certain type of language exposure is at play but also the amount of language exposure.

The development of language skills (and subsequently literacy skills) in South Africa are thus influenced by (i) the input that children receive at home and at school and (ii) the SES of the family. Both of these contributing factors are dependent on the social environment of the community at hand which includes not only the organisational structure and policies of the educational institutions and communities but also the language associated with the practices in these institutions and communities.

Despite the fact that South Africa has experienced 20 years of democracy, the communities in question in this study are poverty-situated and educationally disadvantaged. These poverty and educational disadvantages must be interpreted against the history of South Africa and the manner in which the parents of the present generation were prepared for life during and after

³ The format used to report ages is either number of years (such as “3 years”) or number of years separated by a semi-colon from number of months (as in “7;6 years” which means “7 years and 6 months”).

school more than 20 years ago (i.e., before 1994). Mesthrie (2002:4) states that language use in South Africa “clearly reflects and replicates struggles over various kinds of political inequality, chiefly involving gender, class and ethnicity” and that the present linguistic order can only be understood by examining the role that history played in the education and language use of the people who make up this community. What follows is a brief and selective history of language in education issues in South Africa.

1.2 Language in education issues in South Africa: historical overview and current situation

In 1902, the British Empire ruled South Africa after the Boer⁴ republics were defeated. A central aim of the British Empire was to anglicise the Afrikaners, and thus the use of English over Dutch in the schools was accentuated. State education was only meant for whites; the education of black⁵ people was undertaken by the churches and mission schools. Afrikaners, however, resisted this policy of Anglicisation and placed emphasis on the prominence of Afrikaans due to the value that the language had for them in terms of culture and identity (Mesthrie 2002:18).

During the apartheid era of 1948 and onwards, the education system in South Africa was still engineered to promote White interests (as in the time of the British rule); however, Afrikaans was now being favoured and no longer English. During the early school grades, the education at the black schools included instruction in the L1 of the learners, while English and Afrikaans were taught as subjects. By Grade 5, black learners had to switch to English as LOLT (Kamwangamalu 2001:390-392). In addition, the Bantu Education Act of 1953 was instituted by which the state aimed to engineer a permanent “underclass” of black people by, firstly, placing severe restrictions on syllabus content and LOLT for black learners and,

⁴ The term “Boer” (sg.) or “Boere” (pl.) is associated with the Dutch and Huguenot population which settled in southern Africa in the late 17th century, and the present-day descendants of the Boere are the Afrikaners. Although the term is not regarded as offensive by white Afrikaans-speaking persons when referring to the history of the Afrikaner, many present-day white Afrikaans-speaking persons are not comfortable with being referred to as a “Boer”.

⁵ Mesthrie (2002:4) states that “terminology pertaining to languages and social groups in South Africa [...] can be a minefield [...] these labels reflect the desire of many academics not to ‘naturalise’ a largely arbitrary division among people, made in the interests of apartheid.” The term “black” is one of the problematic terms, as it was as a term of classification during apartheid for people with dark skins. Mesthrie (2002:4) states that some political writers prefer to draw a distinction between “Black” (a positive term for people of indigenous African descent) and “black” (a positive term that embraced a sense of unity amongst Black, Indian and coloured (see. footnote 11) people against apartheid). In this dissertation, “black” is used to refer to people of indigenous African descent.

secondly, enforcing the closure of mission schools that were able to offer quality education to black people even if such education was minimal (Mesthrie 2002:18).

The apartheid policy also endeavoured to set up a clear linguistic hierarchy, as the Department of Bantu Education, firstly, determined that English and Afrikaans be taught in the first year of schooling (to learners who were acquainted with neither language) and, secondly, suggested that either English or Afrikaans be used as LOLT in secondary schools (Mesthrie 2002:19). The Bantu Education Act was established under the pretence of the importance of L1 education as put forward by UNESCO, while the real intent of the Act was to deny black learners access to higher education and to restrict their social and economic mobility (Kamwangamalu 2001:392-394). This situation led to the Soweto uprisings of 1976 and widespread protests against Afrikaans as LOLT in black schools.⁶

After the democratisation of the country in 1994, English became the language of unity and liberation as well as the *de facto* lingua franca. Despite this prominent position of English, “many educators and sociolinguists put their weight behind cultural and linguistic pluralism. Empowering the majority of South Africans meant empowering their languages too” (Mesthrie 2002:22), which involves the recognition of 11 official national languages.

The present national school curriculum in South Africa is the culmination of efforts over a period of seventeen years to transform the curriculum from the apartheid era and is inspired by the ‘Constitution of the Republic of South Africa, 1996’ (Act 108 of 1996) which states that:

Everyone has the right to receive education in the official language or languages of their choice in public educational institutions where that education is reasonably practicable. In order to ensure the effective access to, and implementation of, this right, the state must consider all reasonable educational alternatives, including single medium institutions, taking into account-

- a. equity;
- b. practicability; and
- c. the need to redress the results of past racially discriminatory laws and practices.

Oostendorp (2012:132) states that “in a multilingual community such as South Africa, the problem of finding ‘true’ monolinguals is pertinent”. In South African schools, children study at least two languages while many live in communities in which a variety of languages are

⁶ For a comprehensive overview of black school education from a historical point of view, see Rakometsi (2008).

spoken. Bilingualism and multilingualism in South Africa is therefore the norm rather than the exception.

Bi- and multilingualism occurs around the world, and many learners are educated in a language that is not their L1 (Grosjean 1982:67). Given the colonial influence apparent in African and Asian countries, the official languages are often those languages brought in by colonial rulers. Education in these countries is thus often more widely available in these languages than in the local languages. These languages are also generally the L2 of local communities. South Africa is no exception here, despite the wide occurrence of multilingualism in the country. In the constitution, as indicated above, 11 official languages are provided for in order to acknowledge the variety of language communities in the country. Oostendorp (2012:3), however, states that for the majority of South Africans, education in their L1 is available only in the first three years of primary schooling (in the so-called Foundation Phase), and no more than limitedly available at secondary school level.⁷ L2 as language of education after the Foundation Phase is therefore the rule for L1 speakers of languages other than English and Afrikaans. In this study, two groups of children receive their education in their L1 (Afrikaans or isiXhosa) and another group (L1 isiXhosa) receives education in their L2 (English).

The new National Curriculum Statement for Grades R-12 comprises three documents, namely the (i) *Curriculum and Assessment Policy Statements (CAPS)*⁸ for all approved subjects; (ii) *National policy pertaining to the programme and promotion requirements of the National Curriculum Statement Grades R⁹ to 12*; and (iii) *National Protocol for Assessment Grades R to 12*. In the Foundation Phase Learning Programmes (Grades R to 3), four subjects are taught: Home Language, First Additional Language, Mathematics and Life Skills, the latter of which includes Beginning Knowledge, Arts and Crafts, Physical Education and Health Education. The time allocation for each subject in the Foundation Phase is outlined in the table below.

⁷ The school system in South Africa is divided into four phases. In primary school, Grades R to 3 form part of the Foundation Phase, while Grades 4 to 6 form part of the Intermediate Phase. Grades 7 to 9 form part of the Senior Phase. In the Senior Phase, the learners in Grade 7 are still in primary school and from Grade 8 onwards learners are in high (or secondary) school. Grades 10 to 12 form the last of the four phases.

⁸ "A National Curriculum and Assessment Policy Statement is a single, comprehensive, and concise policy document, which will replace the current Subject and Learning Area Statements, Learning Programme Guidelines and Subject Assessment Guidelines for all the subjects listed in the National Curriculum Statement Grades R – 12" (Curriculum Assessment Policy Statement (CAPS) 2012).

⁹ In South Africa, Grade R is the preparatory school year directly preceding Gr 1.

Table 1.1. Time allocated (in hours) by the CAPS to each subject in the Foundation Phase

Subject	Grade R	Grades 1 to 2	Grade 3
Home Language	10	7-8	6-7
First Additional Language	not indicated	2-3	4-5
Mathematics	7	7	7
Life Skills	6	6	7
Beginning Knowledge	(1)	(1)	(2)
Creative Arts	(2)	(2)	(2)
Physical Education	(2)	(2)	(2)
Personal and Social Well-being	(1)	(1)	(1)
TOTAL	23	23	25

In the Foundation Phase, the Home Language curriculum focuses on the development of skills in terms of listening and speaking, reading and phonics, writing and handwriting, thinking and reasoning, and language structure and use, which are integrated into all four language skills (listening, speaking, reading and writing). The CAPS outlines the specific activities which should be done for each of these five components. What is relevant to this study is that, for the listening and speaking component, learners should constantly be developing their listening and speaking skills, not only in each of the components of language but also during other subjects. The CAPS thus states that “because listening and speaking are crucial to all learning, it is important that these skills are effectively developed early in a child’s academic life”. There is thus time allocated towards specifically comprehension and production development within the Foundation Phase.

For Afrikaans-¹⁰ and isiXhosa-speaking learners who receive their education in Afrikaans and isiXhosa, respectively, the CAPS provides ample time towards the development of listening and speaking skills in the L1 as well as the opportunity to learn English as a First Additional Language. Even so, parents of children who speak Afrikaans or an African language often place their children in schools with English as the LOLT (sometimes the L2 or L3 of the child and at other times a language with which the child is not familiar at all). This is done in an attempt to increase their children’s social mobility; it is a common belief amongst South

¹⁰ Despite the fact that Afrikaans-medium schools are comprised mostly of Afrikaans L1 speakers, it is important to note that there are different dialects of Afrikaans. The Afrikaans-speaking participants in this study, for example, speak a dialect known as Kaaps. The latter is a non-standard dialect of Afrikaans which is spoken mainly but not exclusively by coloured (see footnote 11) middle- and working-class people who during the apartheid era were stigmatised due to their use of this dialect. This stigmatisation is still prevalent in education as Kaaps is not an accepted dialect for the purpose of education in schools. Schools generally do not recognise non-standard dialects as acceptable for classroom use, and there is thus discrimination against speakers of such dialects due to the fact that mostly only standard Afrikaans is used as LOLT.

African parents that children will be better equipped for their future if they receive their education through the medium of English.

1.3 Multilingual South African classrooms

Chetty (2012), referring to the preference for English as language of education by South Africans, states that the school system itself is complex due to language politics. A study by Sekete, Shilubane and Moila (2001:27) found that 60% of black and coloured children do not attend the school closest to them; they have a “manufactured desire” for attending school elsewhere. These children and/or their parents choose schools with English as the LOLT because they regard an education in English as essential for nurturing the necessary “aspirant dispositions” that will allow entry into higher SES employment and lifestyles (see Fataar 2007).

The question arises as to how well the CAPS is suited to urban and peri-urban classrooms that are multilingual in nature: the LOLT might be English, but alongside the English L1 learners there are L2 and L3 speakers of English also being taught in English. The level of English proficiency of these L2 or L3 speakers may be minimal, as some of them are exposed to English for the first time upon entering school. These L2 or L3 speakers may include coloured¹¹ children who are first generation speakers of English: their parents raised them in English, but the parents are L1 speakers of Afrikaans. They may also include black children who have an African language as L1 and whose parents have a low spoken and written English proficiency. Lastly, some L1 isiXhosa-speakers grow up in rural areas and only move to urban or peri-urban informal settlements once they are ready to enter school. Children are thus not only sent to schools further away from the informal settlement, but children are also specifically moved from rural areas (where either an African language or Afrikaans is the LOLT) to urban areas so that better schooling can be received in English. Chetty (2012) relates this displacement of learners to the fact that the status of English is growing, especially given that English is used in the high status domains of politics, the media and education. School governing bodies¹² still select English as the LOLT in more than half the

¹¹ The term “coloured” is a problematic term. It was used as a term of classification during apartheid for people of mixed ethnicity. The term is still used for lack of a more acceptable alternative, and in this case it is used as a label for a varied social group with diverse cultural and geographic origins (Nel 2012:1). Also see footnote 3.

¹² The Department of Education’s language-in-education policy stipulates that school governing bodies hold the responsibility of selecting school language policies that are appropriate for their circumstances and in line with the policy of additive multilingualism.

schools in South Africa, although English is the home language of only 9.6% of the population (Statistics South Africa 2012:11).

The CAPS, as well as teaching practices, must thus accommodate the various types of multilingualism present not only within each school or grade, but also in classrooms in which there are learners from several language backgrounds. The only mention of multilingualism in the new CAPS documents is that “in a multilingual country like South Africa it is important that learners reach high levels of proficiency in at least two languages, and that they are able to communicate in other languages”. This is achieved by providing additional time on the timetable for a First Additional Language and a Second Additional Language in the Foundation Phase. There is thus an aim to make sure that all children learn at least two languages in school, and in this way additive multilingualism is encouraged. *The Revised National Curriculum Statement Grades R-9 - The Teacher’s Guide for the development of Learning Programmes* (Department of Education: 2003) provides the following information on how multilingualism could be incorporated in the classroom:

Additive multilingualism makes it possible for learners to acquire complex skills such as reading and writing in their strongest language. Learners can then transfer these skills to their Additional Language. Wherever possible, learners’ Home Language(s) should be used as the language for teaching, learning and assessment. This is particularly important in the Foundation Phase where children learn the basics of how to listen, speak, read and view, write, think and reason. It is during this phase that learners practise the use of sounds, words and language, and create and interpret texts. *When learners enter a school where the Language of Learning and Teaching is not their Home Language (HL), the teachers and the school should provide support and supplementary learning in the Additional Language until such time that learners are able to learn effectively through the medium of that particular Additional Language. It is the responsibility of each individual teacher to ensure that the Language of Learning and Teaching does not become a barrier to learning in such instances.* [emphasis mine – JHN]

1.4 Problem statement of and rationale for the study

Nippold (2004:8) concludes that the more is learned about the nature of later language development, the relation it has to literacy and the factors which underlie its growth, the more insights researchers will have into the difficulties that children and adolescents encounter with language in the school context. Such difficulties may not only manifest in children who demonstrate language learning weaknesses but also in the spontaneous language comprehension and production of typically developing children. Given that research has

shown that children from low SES environments lag behind in terms of language *and* literacy development (in South Africa also because of the country's political, linguistic and educational history outlined above); the twofold aim of the study is to **determine (i) the level to which Gr 1 learners from low SES backgrounds can comprehend and produce LDCs at the start of the school year and (ii) if these LDCs have not yet been mastered at the beginning of Gr 1, whether said LDCs develop during their Gr 1 year.**

1.5 Research questions

The research questions the study attempts to answer are:

1. How well do low SES Gr 1 learners with Afrikaans, English or isiXhosa, respectively, as LOLT perform at the beginning of Gr 1 and at the end of Gr 1 on tasks measuring the comprehension and production of selected LDCs? Specifically, which LDCs remain problematic for learners at the end of Gr 1?
2. Does the answer to research question 1 differ for the English LOLT and isiXhosa LOLT learners (where both groups have predominantly isiXhosa as L1), and, if so, how does the answer differ?

1.6 Theoretical framework of the study

This study will approach the L1 and L2 acquisition of morphology and syntax from a Chomskyan generative grammar point of view (see Chomsky 1995; Hornstein, Nunes & Grohmann 2005). This framework is chosen because it acknowledges that language acquisition is inherently innate, but that language can only develop with sufficient language input. It is also currently the accepted framework in which several research teams on language acquisition are working in a highly productive manner (see Berman 2004; De Villiers & Roeper 2011; Hyams 2011; Nippold 2004; Ravid 2004; Scott 2004; Tolchinsky 2004; Ud Deen 2011). I will mostly work with the assumptions and devices of Government and Binding theory (chapter 7) and the Principles and Parameters theory or Minimalist Syntax (chapters 5, 6 and 8). In my decision of which version of Chomskyan generative grammar to use, I was led by the version employed in the available studies on the child language acquisition of the particular LDCs. An exposition of generative grammar is provided in section 2.5.

Multilingual language acquisition (as in the case of the isiXhosa-speaking learners with English as LOLT) will be viewed within the framework of multi-competence, in which the L2 speaker is viewed as a whole person with multiple language competencies rather than as the sum of two or more monolingual native speakers (Cook 1991, 1994, 2009a, 2009b, 2012). This framework was chosen because it addresses the bias in favour of the native speaker and monolingual norms against which multilingual speakers are assessed or judged. It focuses on the uniqueness of the L2 speaker by viewing L2 speakers not as monolinguals but as possessing “minds that cope with more than one language” (Cook 2009b) in terms of acquisition, storing, processing and production.

“Multi-competence” is defined as “the knowledge of more than one language in the same mind” (Cook 1994). In multi-competence, the whole mind of the speaker, rather than just their L1 or L2, is emphasised (Cook 2012), and language is viewed as a continuously changing system (De Bot, Lowie & Verspoor 2005; Herdina & Jessner 2002). Hall, Cheng and Carlson (2006) outline multi-competence as neither a psychological concept nor a sociological one; rather, it is a perspective for viewing both these approaches to L2 acquisition and thus applies both to the individual and to the community. For the purpose of this study, multi-competence will serve as the lens through which the English LOLT group will be viewed. Members of this group each have their own multi-competence that is defined by different language combinations in their linguistic repertoire (individually) and how these languages interact at home, on the playground and in the classroom (community).¹³ Furthermore, their language competence is assumed to be growing and changing. These two factors made multi-competence an attractive lens through which to view the English LOLT group.

This approach to explaining multilingual repertoires assumes that someone who knows multiple languages is different to a monolingual and should thus be considered in their own right instead of as a deficient monolingual (Grosjean 1989). Cook (2012) explains that multi-competence “is thus neither a model nor a theory so much as an overall perspective or framework: It changes the angle from which L2 acquisition is viewed. It constitutes a bilingual ‘wholistic’ (sic.) interpretation of bilingualism as opposed to a monolingual ‘fractional’ interpretation of bilingualism, in Grosjean’s (2009) terms”.

¹³ See section 2.9 for an overview of factors that affect language acquisition.

Multi-competence includes the concept of ‘interlanguage’¹⁴ while emphasising that if the L2 users are to be treated in their own right, the native speaker has no particular status in this characterisation. Multi-competence includes the three aspects of L1, the interlanguage and other aspects of the L2 speaker’s mind that play an important role in language acquisition. Traditionally, the language use of L2 speakers is seen as an inaccurate version of the target language if it does not conform to that of monolingual native speakers. The L2 speakers’ level of language proficiency is thus seen as deficient rather than different to that of the L1 speaker. Cook (2012) comments that

while overt denigration of L2 users for not being native speakers is now less common, the perennial SLA [second language acquisition – JHN] research questions continue to revolve around whether the L2 user is like a native speaker: Whether age affects L2 learning depends on speaking like a native – “[we] have yet to show that later learners can achieve the same level of phonology as native speakers in production” (DeKeyser & Larson Hall, 2005, p. 96); the ultimate attainment of L2 learners is assessed in terms of “absolute native-like command of an L2” (Hyltenstam & Abrahamsson, 2003); whether L2 learners have access to Universal Grammar is seen as depending on whether they attain the identical grammar to native speakers (Clahsen & Muysken, 1987) (sic.).

It is with the assumptions of the multi-competence approach in mind that the results of the English LOLT group are compared to those of the isiXhosa LOLT group rather than to a group of monolingual speakers of English. The groups are not primarily compared to establish whether the English LOLT group as multi-competent learners are on the same level in terms of L2 English proficiency as the isiXhosa LOLT group is in terms of L1 isiXhosa proficiency. Rather, the English and isiXhosa groups are compared because they share a L1 (isiXhosa), and I wanted to establish (i) whether the knowledge of LDCs that the English group has at the start and end of Gr 1 is of such a level that they can, without disadvantage, undergo schooling successfully and (ii) whether that which is expected of Gr 1 learners with their L1 as LOLT can be expected of these children who have their L2 as LOLT. The English group is not learning English so that it can perform a secondary function in their lives (contrary to what Cook proposes for multi-competent L2 users); rather, English is supposed to take on a primary function (that of education) by moving the L1 to a position of having a

¹⁴ Selinker (1972) defined “interlanguage” as a separate linguistic system which is evident in adult L2 acquisition. This system is different from the learner’s L1 (native language) and from the target language (i.e., the language that the learner is attempting to learn), but is however linked due to interlingual identifications (equivalence relations which occur when linguistic items are identified by learners as the same in different language systems (Weinreich 1953)) that the learner makes in their perception of the languages. One central characteristic of interlanguage is that it fossilises (ceases to develop at some point short of full identity with the target language) (Tarone 2006:747).

secondary function in the child's future, as mother tongue education in isiXhosa in South Africa only occurs up to Grade 3.

1.7 Social framework of the study

The social framework used for this study includes the Vygotskian sociocultural approach in which it is believed that people within a community (such as parents, caregivers, and peers) as well as cultural artefacts,¹⁵ or the culture itself with its specific practices and traditions, are responsible for the development of higher order functions such as language processing and information processing. Child development can thus be seen as a consequence of interactions between children and their social environment, where children are active participants in the construction of knowledge. By "knowledge" is also understood the attitudes and abilities a child develops which have specific bearing on the acquisition of language and the development of literacy.

Eun (2010:401) states that "by collaborating towards a common cultural goal, people co-construct new knowledge by building on each participant's contribution." In the school community, the common goal is educating children and improving literacy levels. This goal belongs not only to those communities studied here; it is a goal that surpasses individual communities and is present at national level. Despite the fact that the participants and the fieldworkers occupied the same world during the data collection period – in the sense that they have the same goal of ultimately strengthening the language and subsequently literacy levels of the children (be it the learners taking part in the study because it is fun and they are learning something or the fieldworkers conveying information by means of using the assessment instrument) – the research cannot be viewed as value-free, and I, the researcher, still had to navigate the ethnical and political considerations in the participating communities (see Denzin & Lincoln 2005; Morehouse 2012). In this regard, Denzin and Lincoln (2005) state that the subjectivity associated with having people present in research cannot be completely eliminated; even when attempting to remain objective, the researcher(s) forms part of the research process. Thrift and Amundson (2005:14) state that, from a sociocultural position, the preconceived ideas and the cultural and historical background influence the way in which a study is set up and is executed by the researcher but also how fieldworkers and

¹⁵ Cultural artefacts are items which reveal valuable information about the society in question and can include objects such as books or toys.

participants experience and perceive the research itself. The effectiveness of the research is thus dependent on all associated with the research, as it is a collaborative endeavour. For this reason, the value systems and perceptions that each fieldworker has, and how others perceive the fieldworkers, must be taken into account. This is especially true when considering the abovementioned history of South Africa and the fact that a previously advantaged white female (in terms of socioeconomics as well as education) is the main researcher in previously disadvantaged coloured and black communities. My cultural practices differ from those of the communities involved and I attended a different school system to the one in which the participants find themselves. For the above reasons, as far as it was possible, Afrikaans-speaking coloured fieldworkers were employed to collect data in the Afrikaans-medium school and Xhosa researchers were employed in the isiXhosa- and English-medium schools. (The majority of the Gr 1 learners in the English-medium school had low levels of English proficiency and were of Xhosa descent.) Even though it is frowned upon to make such racial and ethnical distinctions, it was imperative in the case of this study, (i) because I wanted to employ fieldworkers who speak the language of the particular community as L1 (and in South Africa, language and dialect to a large extent still fall along racial and ethnic lines) and (ii) I am aware that the history of discrimination still has consequences in the socio-political landscape of South Africa today, and as such I needed to employ fieldworkers who could act as cultural brokers on my behalf. Not considering racial, ethnic and linguistic distinctions could have affected the quality of the collected data negatively.

1.8 Research design and methodology

The study was empirical and quantitative in nature. Quantitative data were collected by assessing a total of 89 children's mastery of their LOLT (Afrikaans, English or isiXhosa) at the start and end of their Gr 1 year. The LDCs assessed were those containing articles, quantifiers, and binding relations, as well as passive constructions.

The reason why these four constructions were chosen is threefold. Firstly, the constructions containing articles and quantifiers as categories, those containing binding relations involving the coreferential relationship between two (or more) categories as well as passive constructions were chosen because they form part of the constructions that the literature deems to be later developing (see Roeper 2007).

Secondly, these constructions form part of the discourse internal linguistic devices that children need to form narratives and add texture to narratives (see chapter 2). The application of Rules 1 and 2 for using articles (see chapter 5) aid with the introduction of an object or character in a narrative and with unambiguous referral to this object or character (in terms of definite and indefinite reference) further on in the narrative. Binding relations are important in terms of making reference to characters or objects in a narrative as a substitution for character names or objects. While the use of quantifiers allows for the contrasting and differentiation of characters and objects within narratives (and other spoken or written texts), they are also needed to describe quantities in mathematical literacy. Lastly passive constructions help learners create the concept of cause and effect, not only in the narratives that the learners have to produce in Gr 1 according to the home language CAPS documents, but also in other academic texts that learners will encounter in the course of their schooling.

Thirdly, all four of the LDCs occur in the context in which nouns occur.¹⁶ Articles and quantifiers are classified as determiners. It is only when articles are combined with nouns in a determiner phrase that the specific reference of the object becomes clear (see chapter 5). Nouns can also only be modified and the quantificational nature of the object be determined when quantifiers and nouns occur together in a quantifier phrase (see chapter 6). The inclusion of binding relations is also linked with the context of the noun. In these constructions, the link, firstly, occurs due to the substitution of the noun by a pronoun which shares a coreferential relationship with the noun (see chapter 7), and, secondly, these binding relations are linked with quantifiers which can also replace the noun and occur in the pronominal form (see chapter 6). Lastly, passive constructions show how nouns as arguments have different syntactic positions in active and passives sentences while still receiving the same thematic role (see chapter 8).

The language assessment instrument employed was Southwood and Van Dulm's (2012a) *Receptive and Expressive Activities for Language Therapy* (REALt), which is partly based on the *Diagnostic Evaluation of Language Variation* (Seymour, Roeper & De Villiers 2005), and is described in detail in section 4.6 of chapter 4. The assessment scores obtained at the beginning and at the end of the year were then compared (by means of statistical procedures)

¹⁶ Despite the fact that articles and quantifiers are defined as categories and binding relations involves the coreferential relationship between two (or more) categories, the term "construction(s)" will be used as a umbrella term in this study because these categories or relationships between categories are examined in terms of the overall phrase structure, where these categories are combined to form a grammatical unit.

for each group separately, specifically to determine which LDCs *remain* unacquired after at least one year of formal schooling, and the English LOLT and isiXhosa LOLT groups' scores were also compared to each other in order to determine whether there are differences between the comprehension and production of LDCs in their LOLTs by these two predominantly isiXhosa-speaking groups. The three groups of learners attended three different schools in the Stellenbosch area of the Western Cape Province, all three in low SES communities.

1.9 Structure of dissertation

This dissertation consists of nine chapters. Chapters 2 and 3 provide the general and theoretical background applicable to all the LDCs treated in this dissertation, and chapter 4 provides a detailed overview of the research design and methodology. Chapters 5 to 8 provide further and more construction-specific theoretical background to each LDC (one LDC per chapter) as well as an explanation of the relevant LDC in each language before the data collected on that LDC are analysed and discussed. More information on the content of each chapter is presented below.

Chapter 2 firstly discusses child-internal and child-external factors involved in language acquisition and development. This is done by outlining monolingual language acquisition and the nature of child language development by (i) discussing core concepts in child language development, and (ii) describing the process of child language development. Secondly, the chapter outlines the prominent theories of language acquisition and the different research foci within generative grammar studies. Thirdly, the chapter explores the difference between early and late language development and provides a summary of the different stages and ages of development. Lastly, the chapter provides an overview of the different factors which influence language acquisition.

Chapter 3 provides an overview of the languages Afrikaans, English and isiXhosa in terms of their history, the distribution of their speakers and their typology. In chapter 4, the research design and methodology of the study is described. This description includes (i) the methods by which participating schools and participating learners were selected, (ii) participant information obtained from language background questionnaires for the Afrikaans-, English-, and isiXhosa-speaking participant groups, respectively, (iii) the data collection instrument (i.e., the REALt), and (iv) the data collection and analysis procedures. The chapter concludes

with a discussion of the methodological difficulties encountered in the study that influenced the way in which the data were interpreted.

Chapters 5 to 8 each have the same structure. Firstly, the relevant and general properties of the LDC are discussed. Secondly, the literature review is presented for the L1 acquisition of the particular LDC (and the L2 acquisition thereof, where available). Thirdly, the specific properties of the LDC are outlined for English, Afrikaans and isiXhosa, respectively. The second half of each chapter then provides an exposition of how each LDC is assessed by the REALt (including the different types of stimuli included in the REALt). Thereafter, the data are analysed and discussed for the comprehension set(s) of the LDC followed by the production set(s) of the LDC in order to answer research question 1. The last section of each chapter involves a comparison between the English LOLT and isiXhosa LOLT data in order to provide an answer to research question 2. Each chapter ends with a summary of the pertinent studies and how the findings of these compare to those of the present study, stating whether the LDC was fully acquired at the start of Gr 1, at the end of Gr 1 or neither. The LDCs are discussed in the following order: articles (chapter 5), quantifiers (chapter 6), binding (chapter 7), and passives (chapter 8).

The final chapter, chapter 9, concludes the dissertation. It provides a comprehensive answer to the two research questions, discusses the contribution and limitations of the study, and makes suggestions for further research in this area.

1.10 Key terms

This section provides a list of the key terms used in this dissertation and explains how these terms are used throughout the dissertation. Terms are given in alphabetical order.

Action research: Action research involves a cyclic process in which a researcher or a research group works through a series of steps including planning, observing and evaluating the effects of a specific action which is to be researched (Gray 2004:378). Action research thus adopts a gestaltist perspective, in which not only a single variable needs to be taken into account, but issues should be understood within a holistic social system (Gray 2004:374). This study used an amalgamation of different action research processes, as well as the general

action research model, in which the role of each researcher or fieldworker is seen as a facilitator that helps shape the research.

Afrikaans (LOLT) group: In this study, there was a complex relationship between the references “L1”, “L2” and “L3”, on the one hand, and the distribution of monolingual and multilingual learners according to LOLT and schools, on the other. In order to simplify matters, the term “Afrikaans group” is used to refer to the L1 Afrikaans-speaking participants with Afrikaans as LOLT. These learners were predominantly monolingual and coloured; a small minority was black.

English (LOLT) group: The term “English group” is used to refer to the learners who have Afrikaans, English, isiXhosa or another African language as their L1 and who attend a school in which English is the LOLT. They were predominantly black and had an African language (specifically isiXhosa) as L1. A small minority was coloured and had English as L1, but then these would be first generation speakers of English as L1 (with their parents having Afrikaans as L1).

isiXhosa (LOLT) group: The term “isiXhosa group” refers to the L1 isiXhosa-speaking participants who had isiXhosa as LOLT. These learners were exclusively black. They were monolingual speakers of isiXhosa or, in the case of a small minority, isiXhosa-dominant speakers who also had knowledge of another African language.

Language acquisition: In this dissertation, “language acquisition” refers to a non-conscious process of rule internalisation resulting from exposure to comprehensible input or to the extent to which such rule internalisation has occurred.

Language comprehension and production: The term “comprehension” refers to the ability that a child has to understand a word, phrase or sentence. In this dissertation, “comprehension” refers to the ability of the child to understand the relevant LDCs and thus pertains to the understanding of language (through listening, not through reading). The term “production” refers to the child’s ability to produce phrases or sentences accurately. The comprehension of language usually, but not always, precedes the production of language. In this dissertation, “production” refers to the ability to verbally produce (i.e., through speaking, not through writing) the relevant LDCs.

Language development: “Language development” is an over-arching term. Language development occurs on a continuum with language acquisition (see above) on the one end and language learning (see below) on the other. The process of obtaining linguistic knowledge over time is thus seen as language development, which is interdependent on language acquisition and language learning, depending on whether there are child-internal (psycholinguistic) and child-external (socio-cultural) factors at play. In this dissertation, “language acquisition” and “language development” may be used interchangeably.

Language learning: In this dissertation, “language learning” is defined as a conscious process involving the study of explicit rules of language which are then also used in monitoring language performance. When used in the dissertation, it refers to the extent to which the explicit rules of the language were studied by the participants.

Later developing (language) constructions: The term “LDCs” refers to constructions in language which (i) are mastered after the age of 5 years and/or (ii) have a low frequency of occurrence in languages. The constructions in this dissertation are deemed to be LDCs due to the age at which they appear and/or the frequency with which they appear. It is also not only the construction itself which makes it an LDC but, in some cases, certain rules pertaining to how the construction is used within a language that contributes to it being classified as later developing.

Multi-competence: Multilingual language acquisition will be viewed from the perspective of multi-competence, the latter being “the knowledge of more than one language in the same mind” (Cook 1994). By using the concept of ‘multi-competence’, the L2 speaker is acknowledged to be “a whole person” rather than merely two or more monolingual native speakers in one. This pertains to the English group (see above) who are L2 speakers of English (and mostly beginner learners of English as L2) who have English as LOLT. It is acknowledged that the comparison of the English group’s scores with those of the isiXhosa group is not made because the English group’s level of comprehension and production are expected to be at L1 level. Rather, such a comparison is made to ascertain how well the English group is equipped to deal with the LDCs which they (will) encounter in their LOLT and are expected to master in order to develop good literacy skills.

Chapter 2

Child language development

2.1 Introduction

Language forms the cornerstone of all human interactions and communication, and involves a specific sound system (in the case of spoken languages, as opposed to sign languages) that combines elements into numerous words and an unlimited number of constructions such as phrases, sentences, paragraphs and complete discourses. With these building blocks, humans are able to express ideas, explain and describe problems or events, tell stories, entertain or regulate life in multiple domains (see Haliday 1975). This chapter focuses on the nature of these building blocks and on how we come to use them. Section 2.2 outlines the nature of language acquisition and development by defining key concepts. Section 2.3 provides a brief overview of the process of child language acquisition. In section 2.4, I briefly discuss different theories on language acquisition and development. Section 2.5 focuses on the theory of generative grammar for monolingual language acquisition. Hereafter, in section 2.6, the stages of language acquisition are discussed in terms of early and later grammatical development. Lastly, this chapter looks at some of the factors which influence mono- and multilingual language acquisition. Nippold (2004:5) suggests that besides the language development that occurs from the child itself (as will be explored in the abovementioned sections), language development is also dependent on exposure to complex language in school, and on other factors which will be explored in section 2.7 below.

2.2 Definitions of and distinctions between core concepts in language acquisition

From a review of the literature pertinent to this study, it becomes clear that most researchers do not make a distinction between “language acquisition”, “language development” and “language learning”, but rather use these terms interchangeably. For the purpose of this study, however, the terms will be used as follows: “Language development” is the over-arching term that refers to both language acquisition (a non-conscious process of rule internalisation resulting from exposure to comprehensible input) and language learning (a conscious process which involves the study of explicit rules of language which are then also used in monitoring performance). The process of obtaining linguistic knowledge over time is thus seen as

language development (see Tomlinson 2007:2), which is interdependent on language acquisition and language learning, depending on whether there are child-internal (psycholinguistic) and child-external (socio-cultural) factors at play. As stated by Tomlinson (2007), all typically developing native speakers achieve language acquisition in childhood but many children fail at achieving effective language development.

One distinction which provides insight into how language acquisition and language learning interact and form part of language development is the distinction between language comprehension and language production. Child language studies (such as the present one) investigate children's language comprehension and/or language production skills, the former often providing researchers with the best and often the only view on the development of children's thought and reasoning (De Villiers & De Villiers 1978:2). Competence underlies performance, and performance involves both language comprehension and language production. Language competence is used in the form of abstract knowledge to comprehend and produce utterances. Similarly, performance is usually thought to involve different types of language use, primarily speaking, understanding, and judging grammaticality (Lyons 1981:233). Performance is therefore dependent on competence, and is also the only window that we have on competence, as the latter is not directly observable. Importantly, though, performance imperfectly reflects competence, due to so-called performance errors, such as slips-of-the-tongue, false starts and misinterpretations. Such errors are thus not evidence of incompetence of a native speaker (Radford 1997:2).

Given the relationship between comprehension and production, if a child can understand a phrase or sentence, then it is assumed that the child could be able to produce said phrase or sentence at one point or another (Elliot 1981:80). In experimental studies with older children, children perform significantly better on assessment of comprehension than on corresponding assessment of performance (Elliot 1981:81), indicating that comprehension precedes production and that language develops progressively. The apparent distinction between acquisition, learning and development and between comprehension and production is however not always clear-cut. A child's language can appear to be at a more sophisticated level of development than it actually is at that point in time. This can be the result of echoing or the production of stock phrases. Not all language produced by children is thus necessarily backed up by understanding. It is important to note that just as the child moves through

different developmental stages, both comprehension and production of linguistic structures undergo development to different degrees over different time spans (Elliot 1981:82).

2.3 The process of language development

Language acquisition as a developmental process is innate and systematic. Language development occurs gradually as the child's cognitive abilities develop, and all typically developing children who are brought up in an environment in which they receive sufficient and sufficiently complex linguistic input will have acquired native speaker competence around the age of 6 years (Clark 2000:181). (Recall though that other researchers would disagree, stating that only the "bulk of language" would have been acquired by 5 or 6 years of age and that there are certain structures that are acquired later – also see below.) In addition, children learning different languages will follow similar developmental paths and exhibit similar developmental patterns (Clark 2000:182). Within the framework of generative grammar (see section 2.5), these similarities across languages are accounted for with reference to an innate, species-specific language acquisition mechanism. Furthermore, the knowledge systems underlying children's and adults' language behaviour are said to involve qualitatively similar grammars – the reason why children's comprehension and production differ from adults' is simply that their underlying grammars are at different stages of development, with certain constructions developing later than others.

Berman (2004:xi) argues that language acquisition research conducted since the 1960s has provided support for the Chomskyan perspective on which language acquisition proceeds fast and effortlessly and is mostly complete around the age of 3 to 5 years. Weissenborn and Höhle (2000:vii, in Berman 2004:10) note that "there is a growing consensus that by the age of three, children have acquired the basic phonological, morpho-syntactic, and semantic regularities of the target language irrespective of the language or languages to be learned". Berman (2004:10), however, amended this statement after finding differences between adults and 9- to 10-year-olds in terms of the content, morpho-syntax and lexical items of narratives produced in one of her studies. Berman concludes that while the process of acquisition is indeed fast and efficient up to the age of (approximately) 5 years, some constructions are only developed after this age, and becoming a fluent or fully proficient speaker of one's mother tongue is a process that extends up to the age of (approximately) 9 years.

The nature of language acquisition is complex, in the sense that the acquisition of syntax, morphology and semantics does not occur independently and uni-directionally, nor does it occur in a linear fashion. The acquisition of syntax and semantics is interactive, and, according to Chomsky (1993b:24), even though the acquisition of syntax might reach a steady state by approximately age 5 years, the acquisition of vocabulary never ceases (even though the rate thereof does decline with age) (Avram 2003:37).

Although there are no clear answers to all the questions surrounding the nature of language acquisition, there is consensus that when children acquire a L1, they do develop it naturally (Meisel 2011:22). This natural development has been studied from a variety of different viewpoints. Avram (2003:42) indicates that the theory of language that is adopted is important, as it ultimately frames the hypotheses we construct about language acquisition. In the following section, some of the most prominent theories of language acquisition will be discussed.

2.4 Prominent theories of language acquisition

Research on child language acquisition can be divided into three schools of thought, namely nativist, interactionist and cognitivist. Nativists believe language acquisition to be based on a strong innate component, whereas interactionists emphasise the influence of caretaker-child communication on language acquisition. Cognitivists, by contrast, view language acquisition as driven by a mechanism that can be equated with a person's general cognitive development (Clahsen 1996:xv).

Clahsen (1996:xvi) explains that previously research on language acquisition did not integrate all sub-disciplines of language acquisition. During the last years, a shift has occurred: acquisition researchers and syntacticians started to work more closely together. As a consequence, the sub-discipline of syntax acquisition research has developed a closer link with theoretical linguistics and the field has become far more integrated; this is however not necessarily yet true for the sub-discipline of morphology. This integration is relevant for the present study, as more nuanced theories of language acquisition have developed within each of the schools of thought referred to here. Though each theory, of course, has its share of proponents, choosing to work within the framework of a specific theory (rather than taking an eclectic approach) allows for a more focused study (in terms of research design decisions, data collection, and data analysis).

Clark (2009:10) points out that “some approaches to language acquisition focus on the product – the end state to be achieved – rather than on the process. [...] This has led to differences in emphasis, with linguistic approaches focusing more on the adult-like nature of children’s knowledge while psychological ones have focused more on the changes that occur during development”. Due to the scope and focus of this dissertation, this chapter will primarily focus on the psycholinguistic developmental changes that occur within language acquisition in general and in terms of specific constructions. The chapter will also sketch a general overview of the acquisition of morphology and syntax from a Chomskyan (generative) point of view (which resorts under the nativist school of thought), the theoretical framework in which the present study was conducted. Specific reference to the product of language acquisition and to the adult-like nature of child grammar will be made in following chapters when comparisons are made between structures within each LOLT group, as well as between the English LOLT and isiXhosa LOLT groups. In the next section, I discuss generative grammar in some detail.

2.5 Generative grammar

In the generative grammar theory of language acquisition, there is a clear focus on an initial state with which a child starts the process of development and a steady state in which development essentially stops (barring the fact that some development – though mostly lexical – occurs throughout one’s lifetime, as mentioned earlier). Many studies have been done on the initial state(s) of language acquisition in which the main focus is the “extent of knowledge that forms the initial state of language acquisition [in which the] issue is the extent to which UG [Universal Grammar – JHN]¹⁷ is available from the onset of development” (Hoekstra & Schwartz 1994:17). Much research has also been done on how the child constructs the language-specific knowledge system and how this system eventually converges to an adult-like grammar¹⁸ (Hoekstra & Schwartz 1994:1).

Exactly how development occurs is one of the most controversial issues in research on the development of L1 grammars; the controversy is about whether grammatical knowledge is available through all the stages of development or whether such knowledge grows with the child, i.e., only becomes fully available over time (Hoekstra & Schwartz 1994:3). Concerning

¹⁷ See below for a discussion of UG.

¹⁸ See below for a discussion of what “grammar” entails here.

the latter option, three different types of theories have been proposed. These include (i) the Continuity Hypothesis (Hyams 1983; Pinker 1984) in which the child's grammar is seen to possess all the functional categories of the adult's right from the start, (ii) the UG-Constrained maturation theory (Borer & Wexler 1987) which states that every utterance produced by a child has a syntactic representation that is available in UG (and thus could exist in the adult form of some natural language) and (iii) a variety of intermediate perspectives regarding the form of a child's grammar during development (see Hoekstra & Schwartz 1994; also see Weissenborn, Goodluck & Roeper 1992:5 for a brief discussion of three possible intermediate scenarios, namely the strong continuity, the weak continuity, and the discontinuity hypothesis). It is thus clear that several different perspectives on grammar can be used to describe any given sample of a child's speech. The question as to which one best captures the language knowledge of the child remains open. A general description of child linguistic knowledge at each stage of development is given in section 2.6 below whereas specific aspects pertaining to each LDC and the studies which describe the research done on each LDC will be discussed in each specific chapter depending on the construction that is being focused on and the extent to which naturalistic or experimental research has been conducted on it.

2.5.1 The notion of 'grammar'

The term "grammar" has two references. The first reference is to the grammar of a language which is taught in the classroom, where the focus falls on prescriptive rules for how the language should be used. Such grammars are usually only concerned with language production but, as mentioned earlier, language competence also includes language comprehension skills, which allow us to interpret words, phrases and sentences. "Interpretation" here refers to the principles which assign meaning to linguistic units (Radford 1997:1). The second reference of "grammar" is to the "system of rules and the principles in the brain/mind which generate language. Grammar is the cognitive system that maps from form to meaning" (Lust 2006:13). Radford (1997:1) defines "grammar" as the "principles which govern the formation and interpretation of words, phrases and sentences". It is in this second sense that the term "grammar" is used in "generative grammar"; linguists working within the framework of generative grammar are not interested in prescriptive grammars; rather, they work towards describing the actual mental grammars that native

speakers of a language (i) create in acquiring a language and (ii) use for language production and language comprehension (Riley & Parker 1998).

The study of grammar is traditionally subdivided into two interrelated areas of study, namely morphology and syntax.¹⁹ Traditionally, grammar pertains to competence rather than performance, thus to the tacit knowledge of a language that is internalised (Radford 1997:2-3). The notion of UG can be defined as the “genetically [pre]determined language system that all human beings are born with” (Platzack 1996:369). UG is concerned with characterising the properties of natural human grammars (Radford 1997:5).

Chomsky further makes a distinction between I-grammar and E-grammar. The internal system which is responsible for the creation of language in the mind of an individual is the I-grammar whereas E-grammar is seen as an external reflection of language (Lust 2006:13). Unlike the concrete rules which we can teach (explicitly) by means of grammar tuition, the knowledge of the linguistic system in the mind is implicit and is “inaccessible to consciousness” (Chomsky 1993b:25). This knowledge of language is made up of different units at basic levels of representation. The figure below, adapted from Lust (2006:25), outlines the units on each basic level of representation.²⁰

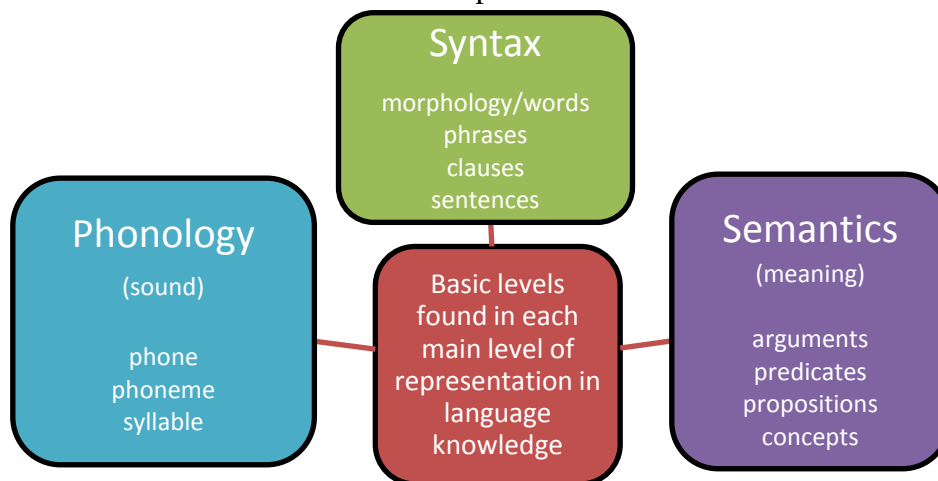


Figure 2.1. Units on each basic level of representation (adapted from Lust 2006:25)

¹⁹ Other aspects of language competence – knowledge of phonology, lexicon, semantics and pragmatics – thus fall outside the domain of traditional investigations into grammar.

²⁰ The basic levels of representations refer to the manner in which the knowledge of grammar is organised in the mind. These levels of representation are made up of the core components of the language such as syntax, semantics and phonetics and the units of each level of representation as outlined in Figure 2.1. At first, the processing of these basic levels of representation was explained according to the transformations which occurred between the deep and surface structures of the sentence. However, with the development of the Minimalist Program, the levels at which the components of language were processed changed to logical form (LF) and phonetic form (PF) (see Figure 2.2 and the discussion thereof below).

2.5.2 The language faculty

The abovementioned basic levels of representation make up the knowledge of language that a child has to acquire in order to become a fluent speaker of his/her L1. These finite sets of discrete units which interact at different levels have to be combined in such a way that a child can use the knowledge s/he acquires. The combination and sequencing at each level as well as the mapping between the patterning of each of these levels has a general design in the human mind (Lust 2006:14). This general design of language knowledge and language processing is organised within the language faculty, the latter hypothesised to be a structure, also called the “language module”, in the human brain or cognitive system.

Under the Minimalist Program (MP) (see Chomsky 1995:1), the language faculty consists of a lexicon and a computational system. At the core of the language faculty, the ability of computation for human language is found, and the central component of this computational process is grammar. In the language faculty, the interfaces are coordinated by means of other forms of cognition, such as sensorimotor and conceptual systems. In this regard, Chomsky (1995:168) stipulates that the language faculty interacts with two performance systems, namely the articulatory-perceptual (A-P) and the conceptual-intentional (C-I) systems. In order to create an utterance, the language faculty must provide instructions to these performance systems. The following figure provides a visual representation of the basic design of the language faculty and how instructions are carried over to the performance systems.

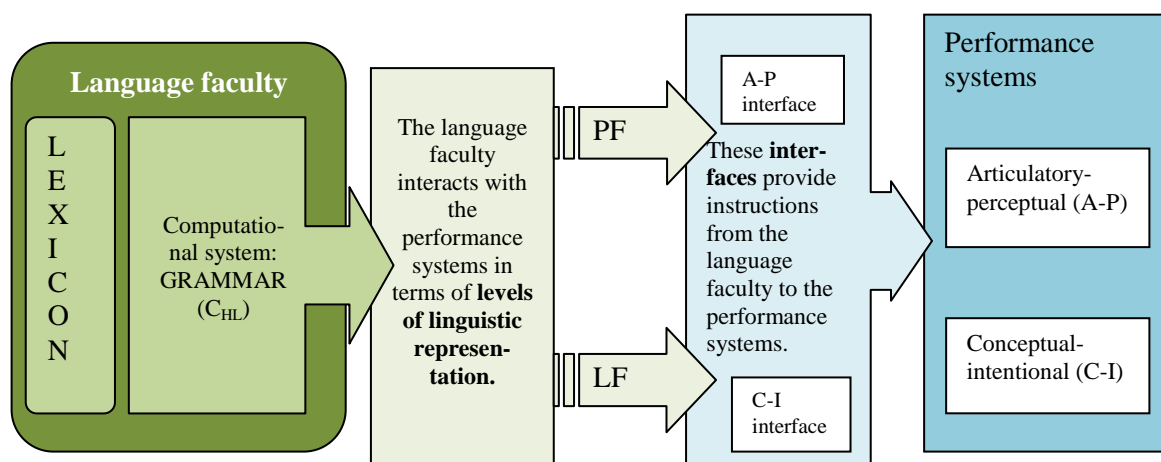


Figure 2.2. Basic design of the language faculty in the Minimalist Program

2.5.3 The Language Acquisition Device and Universal Grammar

Within the generative approach to language acquisition, the child is believed to be genetically endowed with the ability to acquire language by means of the language faculty's influence, which undergoes changes through linguistic input and the possibility of maturation. The requirement of explanatory adequacy,²¹ and the specific view of the computational system set out in the previous section, have led to theoretical changes in what the Language Acquisition Device (LAD) (which forms part of the language faculty, like the lexicon and the computational system outlined in figure 2.2 above) is and what it entails (Avram 2003:78). The LAD is conceptualised differently in the three main models proposed within generative linguistics, namely the Standard Theory (ST) (see Chomsky 1965), the Principles and Parameters (P&P) model (see Chomsky 1981, 1995; Chomsky & Lasnik 1993; Haegeman 1994) and the Minimalist Program (MP) (see Chomsky, 1993a/b, 1995, 1998, 1999). The assessment instrument used for data collection in this study (the REALt) and therefore this study as a whole are mainly set within the framework of the P&P model, and therefore this model will briefly be discussed here.²²

In the P&P model (Chomsky & Lasnik 1993), the LAD is equated to universal principles (which are responsible for capturing the underlying structure which all human languages have in common) and a finite set of parameters which are either un-set or set to default values (the latter accounting for cross-linguistic variation) (Lust 2006:55). Because the relevant principles are universal, it implies that these principles will affect the application of every relevant type of grammatical operation in every language. The main task the child has is thus to set each parameter to the value that is appropriate for the language that s/he is acquiring according to the linguistic input that s/he receives (viz. the utterances to which s/he is exposed) (Avram 2003:78). Parameter-setting involves grammatical learning in which language-particular aspects of grammar have to be accounted for.

Within the MP, the LAD is equated with an array of (invariant) properties as well as computational and assembly operations (Avram 2003:78). The MP builds on the same

²¹ Chomsky (1964:63) states that "a linguistic theory that aims for explanatory adequacy is concerned with the internal structure of the device [i.e., grammar]; that is, it aims to provide a principled basis, independent of any particular language, for the selection of the descriptively adequate grammar of each language".

²² Where interpretations in the data chapters (chapters 5 to 8) are made within a minimalist framework, the relevant aspects of minimalist syntax are discussed there.

assumptions as the P&P, in an attempt to provide an optimal explanation of the design and functioning of the language faculty (Avram 2003:70). There is thus in the MP a shift towards explanatory adequacy by providing a deeper understanding of the nature of the computational system of language. The ultimate goal of the language faculty is thus to constrain the application of every grammatical operation in every language (in every individual) (Radford 1997:11). Figure 2.3 below simplifies the three versions of the generative view on the formation of grammar.

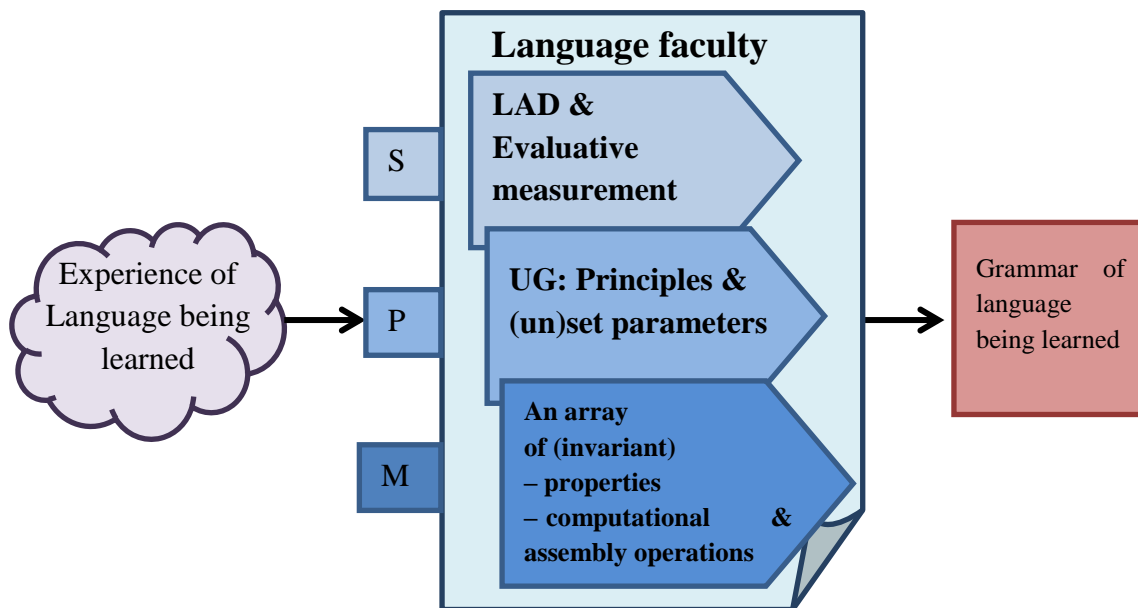


Figure 2.3. Formation of grammar from the generative grammar perspective

2.6 Stages²³ of language development

From the above discussions, it is clear that input plays an important role in language acquisition (a point to which we will return in section 2.7.2). However, the child itself plays an equally important role in the language acquisition and development process, as the acquisition of language structure is directly linked to the mechanisms inherent to children (Clahsen 1996:xvii). The acquisition process thus equally involves exposure to the specific language in question and the innate language acquisition mechanisms that all humans share.

²³ According to Lust (2006:127), the basic properties of a stage are that (i) it has a distinct onset and offset time, (ii) the general organisation of the underlying grammatical system is distinct during that time, and (iii) widespread related unique characteristics characterise all structures during that distinct period of time. According to Ingram (1992:33), a stage is not only seen as having a distinct onset and offset time but it is also continuous in nature: "A continuous stage is one where a single dimension of behavior is being observed, and the difference between stages is only between the points along the continuum [... where] the transition requirement [applies] where the behavior that has plateaued is expected to change again at some later time." Peters (1986:307) states that the development of child language has been reported by some as if it consists of disconnected stages, whereas others view child language development as a dynamic process that does not have the almost static nature of stages of acquisition.

The system underlying the knowledge that children have about language structure is represented in a grammar which is qualitatively largely identical to that of adults. However, young children's comprehension and production of language will differ from that of adults due to the developmental nature of the child's grammatical knowledge. Certain constructions develop earlier than others and, according to Clark (2009:5), it would in principle be logical that the simpler constructions are learned first and the more complex constructions later. However, languages differ in what is easy to learn and what is more difficult to learn; differences in formal complexity thus affect the *rate* of acquisition, but do they affect the *order* as well? (Clark 2009:4). Ultimately, Berman (2004:xi) argues that language acquisition research conducted since the 1960s is in accordance with the Chomskyan perspective in which language is acquired fast and easily and is mostly complete by the ages of 3 to 5 years. This process is thus indicative of development in which a child must move from an initial state without any knowledge about the grammar of a particular language to a state where the child has knowledge of a grammar that is almost identical to that of the adult language to which the child is exposed. This study does not focus on this initial rapid stage of language development but on the slightly later development (i.e., the acquisition of LDCs). As explained earlier in section 2.2, language comprehension tends to precede language production (Clark 2009:14). The asymmetry between comprehension and production is however not only found in specific stages or only in early grammar but continues throughout later acquisition of language in childhood and even into adulthood. In the next sections, I explore the development of language in terms of the different stages of language acquisition, during early and during late acquisition of grammar. I acknowledge that language acquisition is not one-dimensional, but for the purposes of the discussion below I will focus on syntactic development only, on construction types and on the order of their emergence.

2.6.1 Early grammatical development

Although the period before the emergence of first words is a well-studied period in child language acquisition, our discussion starts somewhat later, at the holophrastic stage of child language which the child enters around the age of 1 year (between 10 and 12 months). During this stage, the child uses single words as phrases, and these words (often nouns, adjectives or self-invented words; McNeil 1970, in Dale 1972:38) can each have multiple meanings (Dale 1972:38). For example, *doggie* can mean "Look, there is the dog", "I want to play with/feed the dog", "That's a cute/small dog" or "I am afraid of that dog".

The holophrastic stage and subsequent transitions are followed by a stage in which words are combined to create phrases and by the emergence of what are called “syntactic abilities”. The latter include, amongst other things, the acquisition of rules which underlie the creation of phrases and sentences; the ability to produce phrases and sentences; and the acquisition of the concept of inflections as well as the ability to express a large assortment of meanings. Here, words are not merely combined; specific patterns emerge in the syntactic combinations, and there is hence a differentiation in the meaning of the different patterns. During this stage, the child thus acquires knowledge of the types of relationships that exist between semantics and patterns of word order (see Bloom 1973; Brown 1973; Dore, Franklin, Miller and Ramer 1976; Horgan 1976; Ramer 1976; Scollon 1976; Ewing 1983).

Table 2.1 outlines six different proposals for the earlier (and later) stages of language acquisition. Each proposal is based on different aspects of language acquisition according to which the development of language is divided into stages. Due to limitations of space, these proposals are not discussed here.

2.6.2 Later grammatical development

Platzack (1996:373) specifies that I-grammar, or grammatical competence (the child’s internal grammar which is not yet necessarily at the level of adult grammar), is constructed during the first 4 to 7 years of life. Despite the observation that a child has, by the end of this age, apparently acquired the complete grammar of their native language (and thus appears to possess fully adult-like grammar), Berman and Verhoeven (2002) and Scott (1988) demonstrate that children still have “a great deal” to learn (Scott 2004:111).

Tolchinsky (2004:236), amongst others (see Berman 2003; Clark 1993; Clark & Berman 1984; Clark & Hecht 1982; Ravid 2004), argues that children master the inflectional marking of agreement for number, gender, and person early on and are able to apply the principles of productivity and conventionality in the domain of derivation. However, in terms of lexical development, children of around the age of 5 years still show a tendency to under- and over-generalise the meanings of words while the semantic representations of the defining features or core meanings of words improve, ultimately attaining conventional meaning (Tolchinsky 2004:236). Tolchinsky (2004:237) outlines four main aspects of language use

Table 2.1. Summary of different proposals for the stages of language acquisition

1	2	3	4	5	6
5 major language acquisition periods according to Ingram (1992:53)	Stern's (1924) proposal (see Ingram (1992:39))	Nice's (1925) proposal (see Ingram (1992:46))	Brown's (1973) proposal (see Ingram (1992:50))	Crystal, Fletcher and Garman (1989)	Berman (2004:112)
The period of prelinguistic development (0;0-1;0)	Preliminary stage (first year) i. Babbling ii. Unintelligible imitation iii. Preliminary understanding				Pre-grammatical: item based, situation-bound
The period of the single word utterance (1;0-1;6)	First period (1;0-1;6) Acquires small number of sounds with special meanings	Single word stage Child uses single word utterances	Period of single-word utterances (no grammatical knowledge)	Stage I : One element 'sentences' (0;9-1;6) Extends up to onset of word combinations	
The period of first word combinations (1;6-2;0)	Second period (1;6 -2;0) i. Questions about names of things ii. Spurt in word acquisition (vocabulary growth) a. substance – increase in nouns b. action – increase in verbs c. relation and distinction – increase in qualifying and relational words	Early sentence stage (1;5.5 at onset) Most sentences are incomplete, and consist mostly of nouns, verbs, adjectives and adverbs	Stage I: semantic roles and syntactic relations i. Onset of acquisition of basic semantic relations (agent, patient, goal etc.) ii. Word order is first syntactic device acquired	Stage II : Two element sentences (1;6-2;0) i. Discern the development of hierarchy levels of sentence structure ii. Clause and phrase level relationships develop (separately) Stage III: Three element sentences (2;0-2;6) i. Blending of patterns with clause and phrase structure ii. Development of new clause structure	early grammar

<p>The period of simple sentences</p>	<p>Third period (2;0-2;6)</p> <ul style="list-style-type: none"> i. Start of acquisition of inflection ii. Sentences become well formed with major grammatical relation (subject / object) (simple juxtaposition of words) iii. Range of questions expands 	<p>Short sentence stage (±3;0)</p> <ul style="list-style-type: none"> i. start of acquisition of inflections and grammatical words ii. ratio between word classes becomes stable <p>Transition Stage Moves from incomplete to complete sentence production</p>	<p>Stage II: modulation of meaning</p> <p>Onset of acquisition of inflections and grammatical morphemes (majority only acquired in subsequent stages)</p> <p>Stage III: modalities of simple sentence</p> <p>Active acquisition of English auxiliary as appears in yes-no questions, <i>wh</i> questions, imperatives, and negative questions</p>	<p>Stage IV: Sentences of four elements and more (2;6-3;0)</p> <p>Same development as in Stage III but now with four elements</p>		<p>early grammar</p>
<p>The period of complex sentences</p>	<p>Fourth period (from 2;6)</p> <ul style="list-style-type: none"> i. Hierarchical structure ii. Acquisition of embedded or subordinate sentences iii. Continuation of acquisition of grammatical morphemes iv. Questions now include time and causality 	<p>Complete sentence stage (around 4;0)</p> <ul style="list-style-type: none"> i. Most sentences are well formed ii. Complex and compound sentences are more frequent 	<p>Stage IV: embedding of one sentence within another</p> <p>Complex sentences appear with object noun phrase complements, embedded <i>wh</i> questions and relative clauses</p> <p>Stage V: coordination of simple sentences and propositional relations</p> <p>Active development of sentence, noun phrase, and verb phrase coordination with the use of conjunctions</p>	<p>Stage V: Recursion (3;0-3;6)</p> <ul style="list-style-type: none"> i. Internal structure of clause development complete ii. Productions of patterns of clause sequence (= multiple sentence structures can be produced) iii. Set of connective devices to interrelate clauses are complete (= coordinating and subordinating conjunctions and others) iv. Development of relative clauses and non-finite clause types v. Sequences in prepositional phrases vi. Development of tag questions vii. Use of noun clauses expands <p>Stage VI: System completion (3;6-4;6)</p>		<p>late grammar</p>
			<p>Stage VII: Discourse structure, syntactic comprehension and style (from 4;6)</p>	<p>Conventionalised: context-orientated, discourse motivated</p>		

which are later developing, namely (i) texture, (ii) meaning beyond conventional senses, (iii) dialogue beyond interchange, and (iv) the semantics of alternative worlds. The semantics of alternative worlds focuses on the modality used in communication, and dialogue beyond interchange focuses on the development of turn-taking as well as non-verbal and verbal interchange. These two aspects do not fall within the scope of this dissertation. Meaning beyond conventional senses includes the use and development of metaphors, proverbs and idioms. This, as well as texture, will be discussed below.

Nippold (2004:2) states that the nature and substance of language growth beyond the preschool years includes the attainment of literacy; the spoken and written language skills necessary for successful communication include the acquisition of a literate lexicon and figurative language. Nippold (2004:2) defines the literate lexicon as “a mental dictionary of thousands of complex and low frequency words, coexisting in an elaborate semantic network”. The expansion of the literate lexicon takes place as a child moves from learning concrete words such as *bicycle*, *car*, and *truck* to acquiring knowledge of abstract vocabulary (e.g., *the road of peace*) which often expresses multiple or figurative meanings that preschool children fail to understand and in which multi-word clauses such as idioms and metaphors occur (see Dockrell & Messer 2004; Ravid 2004). The expansion also includes the skill of retrieving words with speed and accuracy during communication. This expansion and growth of the literate lexicon does not comprise a complete stage of acquisition (unlike the case for certain grammatical structures) but continues as the literate lexicon expands into and throughout adulthood. This extended process of growth goes hand in hand with analogical reasoning, metaphor comprehension and the use of low frequency metacognitive verbs (such as *assume* and *realise*) (Nippold 2004:2,3).

Nippold (2004:3) states that syntactic attainments in later language development include the ability to use low frequency structures such as passive constructions. The frequency of occurrence for subordinate clauses such as centre-embedded and object relative clauses,²⁴ past perfect marking,²⁵ modal auxiliaries,²⁶ low frequency adverbial conjunctions,²⁷

²⁴ An example of a centre-embedded relative clause is *The ball that the girl kicked broke the window* and an example of an object relative clause is *I liked the show that we watched today.*

²⁵ E.g., *The ball that the girl had kicked broke the window.*

²⁶ E.g., *The ball that the girl kicked could/ would/ should have broken the window.*

²⁷ E.g., *meanwhile, consequently, moreover.*

embedded *wh* questions,²⁸ noun and verb phrase coordination²⁹ as well as case endings on personal pronouns³⁰ also increases in the child's language production (Dale 1972:98; Nippold 2004:3) and this makes for the use of longer, more complex (and thus more textured) sentences.

The important differences between the grammar of older children and that of adults cannot always be deduced from spontaneous observation of free speech. This is illustrated in a study by Carol Chomsky (1969) on the comprehension of passive constructions. The listener must understand the grammatical relations of passive constructions in terms of the deep structures, as opposed to understanding only the surface structures³¹ of their active counterparts (Dale 1972:99). Furthermore, sentences which provide semantic clues are easier to comprehend than sentences for which the full knowledge of structure is needed and no semantic clues are evident. Consider the sentences in 2.1 and 2.2 below.

2.1. *The stairs are hard to climb.*

2.2. *The letter is hard to write.*

These sentences can mostly be comprehended solely on the basis of the meaning of the lexical items used. *Stairs* and *letter* denote inanimate objects which cannot execute actions such as writing and climbing. These verbs denote actions that require animate agents. A question posed to children in the Chomsky study, *Is the doll easy or hard to see?*, was however answered without hesitation but mostly incorrectly (Dale 1972:99), as seeing is an action that can plausibly be performed by people and by dolls. Therefore more than lexical knowledge is needed to comprehend the question correctly. The percentage of correct answers to this question steadily increased with an increase in age, from 22% at 5 years to 75% at 8 years and 100% at 9 years. Dale (1972:105) indicated that just as overgeneralisations of past tense, case and other inflections occur, so too do overgeneralisations in syntax, involving the generalisation of the rules relating to deep and surface structure (as indicated in Chomsky's (1969) study). (The comprehension and

²⁸ E.g., *I don't know where you put your keys.*

²⁹ E.g., *The boys and girls have sung and danced.*

³⁰ E.g., *I* (subject), *me* (object), *my* (possessive).

³¹ In transformational generative grammar, the underlying semantic or syntactic representation of a sentence is referred to as its deep structure. It is from the deep structure that the surface structure is derived as a structural representation of the final syntactic form of the sentence (see Chomsky 1957) by means of feature checking and movement operations (see section 2.5).

production of passive constructions will be explored further in chapter 8.) These generalisations cannot always be observed in spontaneous speech and may need to be elicited by means of language tasks.

Returning now to Tolchinsky (2004:237): She outlines how the linguistic texture grows. Discourse-internal linguistic devices are maintained by the development of language structures such as ellipsis, *wh* questions, passives (see chapter 8), and conjunctions. Other structures such as articles (see chapter 5) and quantifiers (see chapter 6) play equally important roles in the production of especially narratives. Accordingly, children learning languages that use indefinite markers for new information start using the marker for “newness” around the age of 7 years whereas in languages like Chinese where the newness marker occurs post-verbally, the device appears much later, around the age of 10 years (Tolchinsky 2004:237). (The comprehension of definite vs. indefinite articles will be discussed further in chapter 5.)

In general, later development not only points to specific language constructions which develop but also to the autonomy of child language, as children produce complex utterances and structures which they have not heard before (Dale 1972:104) and have the ability to plan their discourse so as to reflect the needs of the interlocutors or the situational context (Tolchinsky 2004:237). Children also have a preference for certain overgeneralisations – not only in morphology, but also in semantics and syntax (Dale 1972:105). We now turn to the factors that affect language development in children, both in the early and later stages.

2.7 Factors affecting language acquisition

Recall that children require language input in order for parameter setting (and for language acquisition in general) to take place. This input is obtained from adults, family and friends (amongst others), and varies according to the social circumstances in which a child grows up.

Specifically related to language development in older children: In a study of the language and literacy skills of Grade 3 learners, Klop and Tuomi (2007:59) attributed the low literacy levels to (i) large and in some cases overfull classrooms, (ii) a lack of resources, (iii) a shortage of trained teachers, (iv) low SES, and (v) poor pre-literacy skills. Upon closer

examination, it was found that the lower the National Quintile,³² the greater the number of struggling schools. Factor (i) above, large or overfull classrooms, places strain on children's language and literacy development because children might not receive sufficient attention in bigger classes and delays in development might be overlooked. Factor (ii), a lack of resources, may affect a child's linguistic ability, as textbooks which can act as additional sources of academic and language input are unavailable. Factor (iii), a shortage of trained teachers, can be linked to factors (i) and (ii) but does not pertinently fall within the scope of the present study.

Factors (iv), low SES, and (v), poor pre-literacy skills, are closely related and have been found to have a significant impact on the development of language and literacy. These two factors will be explored in more detail in the sections below. In addition to the five factors mentioned above, poor entry level language skills, due to variation in terms of the quantity, quality and style of the input that children are exposed to, could also negatively affect literacy rates (Klop & Tuomi 2007:59, 60). Although low SES children may well be exposed to sufficient input in their socio-cultural environment to develop their conversational language skills, these skills may simply not be in the register needed to develop academic language proficiency (Klop & Tuomi 2007:60). Language input as a factor which affects language acquisition will be discussed in section 2.7.2 below, after a discussion of the influence of SES on language development.

2.7.1 Socio-economic status

Multiple studies have documented the negative effect of high-risk demographic factors such as low SES and minority status on language development. Heath (1982) found that the language skills that low SES children do acquire at home are also not as easily transferrable to the classroom context as those that middle SES children acquire at home.

Despite the fact that this dissertation focuses on later language development, it is important to recognise that later language development is, of course, dependent on early language

³² According to the quintile system, every school is assigned a quintile rank (from Q1 to Q5) on the basis of the SES of the community in which the school is located. This quintile rank is then used to determine the amount of funding that the school will receive from the government. The quintile system "was implemented in post-apartheid South Africa as the government's commitment to redress and redistribution in the education sector" (Chutgar & Kanjee 2009).

development. If the early base of grammar is insufficient, it would affect the subsequent development of language in the later developmental stages. The supposition that early language development is associated with later academic achievement has been supported by multiple studies, including Craig, Connor and Washington (2003); Magnuson and Duncan (2006); O'Neil, Pearce and Pick (2004); Pungello, Irukha, Dotterer, Mills-Koonce and Reznick (2009); Scarborough (2001a); Stevenson and Newman (1986); Storch and Whitehurst (2002); and The National Institute of Child Health and Human Development Early Child Care Research Network (2005). Among these studies is that of Hart and Risley (1992; 1995) who conducted longitudinal observations of 40 African American and European American parents with their young children. The results showed that the children of parents with a low SES had the least developed language skills. Children with low SES have specifically been found to have a low mean length of utterance (MLU)³³ and slow developing expressive skills (Pungello et al. 2009:544,546) when compared to children from families with higher SES. The language skills of children from low SES families are associated with a lack of resources and opportunities and with other poverty-situated stressors that may include discrimination and racism experienced by ethnic minorities as well as parenting practices that do not lend themselves to fostering language development (Evans 2004, in Pungello et al. 2009:545). Despite the wealth of research already available in terms of SES (see e.g., Duncan, Brooks-Gunn & Klebanov 1994; Hoff 2003; Hoff-Ginsberg 1991; Linver, Brooks-Gunn & Kohen 2002; McLoyd 1998), additional qualitative and quantitative research is needed to find other mechanisms associated with SES which could have a direct effect on child language (Pungello et al. 2009:551).

Several studies have examined the language input that children from low SES families receive. (Language input is discussed further in the next section.) A study by Snow, Arlman-Rupp, Hassing, Jobse, Joosten and Voster (1976) (overviewed in Clark 2009:44) recorded the speech of three different SES groups of parents (lower, lower-middle and upper-middle class) reading books to and free playing with their 2-year-old children. The lower-middle and upper-middle SES parents used more deictic expressions like *this*, *that* and *here* during free-play than the parents with lower SES. *Wh* questions were used more frequently and *yes-no* questions less frequently by the upper-middle SES parents than by the lower and lower-middle SES parents. The lower SES parents used imperatives more frequently than did the

³³ MLU is measured in terms of the average number of morphemes (or alternatively the number of words, depending on the calculation formula) that occur per utterance.

middle SES groups. The higher SES parents thus use more complex structures than the lower SES groups. It thus appears that the quality of the input received by children from higher SES families differs from that received by children growing up in low SES families. Negative correlations as pointed out above were also found in other studies. For example, Newport, Gleitman and Gleitman (1977) found the same relationship between the number of parental imperatives and the child's consequent development of verb- and noun-phrase complexity, and Clark (2009:44) found a positive correlation between the use of deixis in parental speech, on the one hand, and children's vocabulary size and their later development of noun phrases, on the other.

Hoff-Ginsburg (1991) found that middle SES mothers would be more likely to pursue a topic initiated by their child than low SES mothers, whereas low SES mothers used more directives compared to middle SES mothers to control their children's behaviour. Clark (2009:45) concludes that the "negative relation with parental prohibition and the positive one with parental expansion of topics are consistently associated with SES [... while] outcomes for language acquisition might be affected by quantity – the amount of time parents are engaged talking to their children as they interact with them". In this regard, children growing up in welfare homes are exposed to approximately 12 million words over a 4-year period, whereas lower and middle SES children are exposed to 24 million and high SES children to 44 million (Hart & Risley 1995; Clark 2009:45).

Ultimately, the characteristics of the child-directed speech correlate with the children's vocabulary size in the first year of development and in the early school grades. At around the age of 8 years, lower SES children start falling even further behind higher SES children, increasing the difference in vocabulary size between these two groups. However, vocabulary size is only one way in which to measure language skills. Older studies (conducted in the 1950s and 1960s) found that SES has a significant effect on the development of vocabulary but not on syntactic development (see Dale 1976:316-21 for an overview). However, Southwood (2012:5), in accordance with Clark (2009), argues that these findings are due to the fact that non-complex syntactic structures, rather than more complex LDCs, were the subject of investigation. She concludes that while the comprehension and production of non-complex syntax is not affected by SES, school-aged poverty-situated children do find the comprehension and production of complex syntactic structures (those necessary for success in school) challenging (Southwood 2012b:5). In this regard, Romaine (1984:174-175) states

that upon school entrance not all children have sufficient knowledge about different utterance types and constructions and the purposes for which these should be used within a classroom. Within the South African context, Van Dulm and Southwood (2008) and Southwood (2012) have also found a persistent link between low SES and poor language skills as assessed by the DELV. Klop and Tuomi (2007:59, 60) call for further research in this regard, specifically on emergent literacy and language skills in different cultural groups at school entry level. The present study is a response to that call. I focus on children from low SES because, especially in terms of the development of LDCs, this is an under-researched group.

2.7.2 Input

In the section above, it was shown that parental input plays an important role in language development. But how does this occur and what implication does input have further for the development of language in children? According to Elliot (1981:15), primary linguistic data (PLD), which are needed to create language competence for subsequent performance, include disintegrated samples of the language being learned, including false starts, ungrammatical utterances, slips of the tongue, and extremely complex sentences. The internal linguistic environment of the child (i.e., UG, which forms part of the LAD) aids in the acquisition of the fundamental linguistic structures at approximately the same age across children, while the external linguistic environment plays an important role in acquisition and may in many cases be a retardant or the reason for differences in rate of development between individual children (Elliot 1981:15). There are at least two explanations for how such relations between child language skills and input occur and function. Firstly, language and input are seen as related in that the input has a direct effect on the syntactic skills that the child acquires (Nelson 1977). The quantity of utterances to which a child is exposed varies from parent to parent and situation to situation (see Bee, Van Egeren, Streissguth, Nyman & Leckie 1969; Farian & Haskins 1980; Hart & Risley 1992; Hess & Shipman 1965;). Secondly, the child's ability level is seen to affect the input the child receives (Snow 1989; Sokolov 1993). Barnes, Gutfreund, Satterly and Wells (1983) found that differences in the quantity of parental input were directly proportional to the MLU of the child and the general developmental level of the child. In the remainder of this section, three sources of input will be discussed, namely parental input, teacher talk and peer socialisations.

2.7.2.1 Parental input

Studies on the relation between the syntactic skills of the child and the home environment focus on the frequency with which children receive parental input but also on the quality and quantity of such input. The quality of input children receive from the external environment can be illustrated by parents' speech to children. Language directed towards children generally includes language styles different from that of adult conversation. Child-directed speech (i) has different and special vocabulary, (ii) has features which are exaggerated or purposefully employed or emphasised despite not featuring in adult language, and (iii) is characterised by modification (compared to adult language) made at the levels of the paralinguistic, syntactic and discourse features (Elliot 1981:150). In terms of syntactic structures, child-directed speech has a shorter MLU and mean pre-verb length; fewer subordinate clauses or embeddings per utterance and fewer verb forms and modifiers; more content words and fewer function words; and more verbless utterances (Elliot 1981:151).

In addition to the abovementioned general syntactic characteristics of parental input, other syntactic aspects are found in only some subsets or specific constructions (Huttenlocher et al. 2002:340). The proportion of auxiliary-fronted yes/no questions in parent speech, for example, strongly and positively correlates with the development of these constructions in the child's language (see Huttenlocher et al. 2002:340,341). (As mentioned above, there is a general conclusion that imperatives are negatively related to syntactic growth whereas the use of questions is positively related; however, other studies, such as those done by Barnes, point to the opposite.)³⁴

Whether the child is a second-born or a first-born also plays a role in the input the child receives. Hoff-Ginsberg (1997, 1998) specifies that first-borns experience swift syntactic development in the early stages of word combination because parents provide a higher frequency of input. These natural environments not only pertain to the parental input a child receives, but also to that received from other family members such as siblings, as well as the school or educational institutions which children attend (Huttenlocher et al. 2002:338-344). A review by Elliot (1981:152) points to the fact that child-directed speech is not only the

³⁴ According to Newport, Gleitman and Gleitman (1977), there are aspects of child speech which are not affected by parental input. These include the number of noun and verb phrases which are observed in child utterances and might point to the involvement of universal aspects of language structure. It becomes clear from Huttenlocher et al.'s (2002) review that whether or not later syntactic development is related to input has not yet been studied systematically.

prerogative of mothers; in many cultures, for example, the responsibility of childrearing falls on older siblings rather than on mothers (Elliot 1981:152-153). The type of input received by children from children may well differ from that received from mothers. (The influence of peer socialisation will be elaborated upon in section 2.7.2.3 below.)

2.7.2.2 Classroom and teacher input

The input that the child receives at school plays a role in his/her language development. A study by Huttenlocher, Levine and Vevea (1998) found a substantially greater growth over the school year for a variety of skills in comparison to the time during holidays. This growth included the acquisition of vocabulary and syntax. It is however important to note that because the classroom activities were not directly assessed, it is not clear if language input was the relevant cause (Huttenlocher et al. 2002:343-344).

Despite the fact that children can generally already construct most sentence types and decode complex semantic relationships in their L1 when entering school, their language acquisition process is not yet complete. The communicative situation found in the home environment aids the child in developing communication and interpretation of meaning within a system in which the child and the parents share common language and situational knowledge (Romaine 1984:167). The transition from home to school involves a shift in the relationship between language and context. Despite the fact that there is variability in language socialisation at home, most language socialisation at home is structured around practical activities which are different to the way in which the school setting is structured. The strategies which children require for interaction, interpretation, use and learning of language at school may thus not only be unfamiliar and abstract to a child but may also be ineffective and unproductive at first (Romaine 1984:167).

The structure of a school day typically involves many sub-events in which storytelling, reading, lessons, show-and-tell, etc. take place, and each event has specific and often implicit rules associated with it. The manner of participation in class thus is obviously different to that experienced at home (Romaine 1984:170). In this way, schools play a vital role in the achievement of (a new) literacy and later language development, as children receive adequate exposure to complex and low-frequency words, multilexemic expressions and syntactic structures as they listen to or read complex language (Nippold 2004:5). Reading in school, according to Dockrell and Messer (2004), plays an important role in the acquisition of new

vocabulary, as teachers can explain what new words mean, especially in interactive reading sessions. After the age of 10 years, when children are able to read proficiently, their own metalinguistic competence aids with the independent acquisition of new words (Nippold 2004:5). The ability to use these metalinguistic strategies is also part of the developmental process which occurs parallel to the development of language itself.

Children furthermore acquire complex syntax through exposure to literate contexts. One specific example pertaining to how input may play a role in the acquisition of complex syntax as well as to how home and school language input differ can be seen by looking at question-answer exchanges in the classroom. Romaine (1984:173-174) outlines the differences between how teachers ask their own children questions at home and how they ask their learners questions at school in a working class black community (from studies by Heath 1982 and Snow 1977). Romaine (1984:174,175) concludes that (i) the learners had not learned to respond to utterances which were in the interrogative form yet directive in pragmatic function, (ii) questions that expected students to provide feedback information already known to the teachers were not part of learners' everyday life experiences, and (iii) children had little or no experience with questions requiring a display of specific skill and content information evident from books or ways of talking about books.

Work by Heath (1982) thus illustrates that despite the fact that question formation seems superficially to involve the same linguistic form regardless of where and by whom the question is posed, questions can produce unseen barriers to effective classroom communication (Romaine 1984:175). Romaine (1984:175-176) thus states that "discontinuities between teacher and student styles of interaction in the teaching/learning process can cause a number of problems, [including stereotyping children as slow or uncooperative learners – JHN] for members of various minority groups". The different uses and expectancies associated with questions are one piece of evidence for the important role that schools have in shaping the child's language development and the specific context in which new uses of language occur (Romaine 1984:176).

2.7.2.3 Peer socialisation

The transformation apparent in the switch from home setting to school setting is also important when looking at the influence that a child's peers can have on the language which they are learning. The home and school environments aid in building general and effective

group communication skills, while play and interaction with peers facilitates other ways of speaking and different routines through playing games with each other, boasting, teasing, gossiping or arguing. From peer interaction, children learn to use features of different registers, voices and genres (Goodwin & Kyratzis 2011:366). Thus, children in the process of “language socialisation mutually [shape] one another” (Goodwin & Kyratzis 2011:365; also see Pontecorvo, Fasulo & Steriponi 2001). That said, research on peer talk has focused mainly on the function that it has in the co-construction of a child’s social and cultural worlds, rather than on the development of language (Blum-Kulka 2004:196). One important manner in which peer talk does affect language acquisition is by means of later pragmatic development in which a child “acquires the knowledge necessary for the appropriate, effective, rule-governed employment of speech in interpersonal situation[s]” (Ninio & Snow 1996, in Blum-Kulka 2004:191). The communicative competence a child acquires thus produces a variety of socially and culturally appropriate ways of speaking and writing in a variety of contexts.

From the studies reviewed by Romaine (1984), it transpires that language acquisition and learning processes are partly linguistic, partly social and partly biological; while peer socialisation plays a role in the acquisition of language, language equally and conversely plays a vital role in appropriate and successful peer socialisation.

2.7.3 The acquisition of (pre-)literacy skills

It is generally agreed upon that literacy³⁵ is a complex and multifaceted skill which is constantly in flux (Snow 2004:276). The attainment of literacy includes the attainment of spoken and written language skills that are necessary in communication, not only in our daily lives but also in more formal settings such as the classroom (Nippold 2004:1,2). This firstly includes the acquisition of a “literate lexicon” (referred to in section 2.6.2) which will expand as the child progresses through the school grades and develops cognitively, linguistically and

³⁵ The definition of “literacy” is dependent on the type of theory in which it is employed as well as the common conceptions surrounding literacy and literacy development. Literacy can fall along various continua, including componential vs. holistic, solitary vs. social, instructed vs. natural, functional/technical vs. transformational/cultural, singular/coherent vs. multiple/varied and school-focused vs. home- and community-focused (see Snow 2004:276 for a review). Whereas providing an overview of each of these continua is beyond the scope of this dissertation, it is noteworthy that they exist, as they not only point to (i) the complex nature of how one defines “literacy” but also (ii) how complex the factors are that play a role in literacy, (iii) the role that preliteracy and literacy skills play in language development and (iv) how (ii) and (iii) are interdependent.

academically. A meta-analysis of longitudinal studies of literacy development by Scarborough (1998) illustrates that some early emergent skills are highly reliable predictors of later outcomes, whereas others are not as precisely correlated (Snow 2004:279). One of these long-term predictors of good literacy outcomes that are measurable in early childhood is dependent on the literate lexicon (Snow 2004:279). Phonological awareness is correlated with literacy acquisition, because in order to read, a child must firstly be able to discern that letters represent sounds and secondly what relationships exist between specific letters and sounds (Snow 2004:286). The attainment of literacy not only includes the literate lexicon and the development of figurative language and phonological awareness, but it also includes specific syntactic attainments and the attainment of spelling skills in order for a child to comprehend and produce linguistic units and combinations larger than words. Garton and Pratt (1989) emphasise that the linguistic development of children falls on a continuum which begins with the “tentative ability to comprehend and use simple words and ends with the ‘confident mastery’ of written texts” (Bialystok 2002:155). According to Garton and Pratt (1989), this continuum is visible in the apparent path from children’s growing grasp of syntax, discourse and vocabulary in spoken language through to the emergence of these children reading independently.

Bialystok (2002:154), Sulzby (1986) and Teale (1986) state that, in terms of emergent literacy, children’s ability to read is dependent on their first experiences with language. Language skills and later academic success have been found to be heavily influenced by children’s preschool experiences, and specifically to be enhanced by pre-school experiences which include (i) a focus on reading comprehension, metalinguistic abilities and the ability to use language for analytic purposes, along with (ii) exposure to complex grammatical structures and different genres and modalities (Dickinson & Porche 2011:870). However, relatively little is known at this stage about how the preschool curriculum prepares children for the early school years and how it affects language and literacy development (Dickinson & Porche 2011:870). The study reported on in this dissertation is directly related to this question, in that it aims to determine to what extent children at the beginning of Gr 1 are ready for the language they will encounter in the Gr 1 classroom.

2.8 Conclusion

Language development (comprising both language acquisition and language learning) is seen to be an innate process guided by an internal blueprint (UG) and occurring in various stages.

Whereas the bulk of language development has taken place by around 5 years of age, there are certain structures that develop later. This study focuses on some of these LDCs. The development of language in general and also of LDCs is influenced by SES and by home, school and peer language input. The study focuses on low SES children in their first school year, looking at how prepared they arrive at school from home and at the progress that they make upon receiving language input from teachers. From the literature reviewed, it becomes clear that not one of the abovementioned factors can be singled out as the only important factor affecting language development; rather, the factors which affect language development are contextually driven, and there is a co-variation of factors, which depends on this context. The influence of context was already pointed to in chapter 1 and will be elaborated upon in chapter 3, where an overview of relevant aspects of the languages Afrikaans, English and isiXhosa will be given.

Chapter 3

The languages Afrikaans, English and isiXhosa: Distribution, history and typology

3.1 Introduction

This chapter will provide an overview of the languages (Afrikaans, English and isiXhosa) involved in the study by discussing the distribution of languages in South Africa, providing a brief overview of the history of the three languages, and briefly describing the language typologies for these three languages, specifically with reference to those morphosyntactic properties of each that are relevant to this study.

3.2 The distribution of languages in South Africa

South Africa has 11 official languages which are used in a variety of contexts every day. Table 3.1 provides the number of L1 speakers for each of the official languages, as per the 1996, 2001 and 2011 census data.

Table 3.1. Number of L1 speakers of official languages in South Africa (Statistics South Africa 2003, 2004, 2011)

Language	% of population 1996	% of population 2001	% of population 2011
isiZulu	22.9	23.8	22.7
isiXhosa	17.9	17.6	16
Afrikaans	14.4	13.3	13.5
English	8.6	8.2	9.6
Sepedi	9.2	9.4	9.1
Setswana	8.2	8.2	8%
Sesotho	7.7	7.9	7.6
Xitsonga	4.4	4.4	4.5
SiSwati	2.5	2.7	2.5
Tshivenda	2.2	2.3	2.4
isiNdebele	1.5	1.6	2.1
Other	0.6	0.5	1.6

South Africa is a good example of a multilingual country in which communication is characterised by bilingual and multilingual interaction. Such communication takes place for various purposes and involves the use of different language combinations, and different types of bilingualism (Grosjean 1994:1656). One type of bilingualism is what Hoffman (1991:110) refers to as “horizontal bilingualism”, in which two languages are used side by side, as is very often the case with Afrikaans and English or with English and an African language in South Africa (Nel 2012:1). As stated by Mesthrie (2002:1) and as can be seen in the census statistics provided in Table 3.1 above, English is “not numerically dominant” as L1 in South Africa (isiZulu is the numerically dominant L1, with English being the L1 of less than 10% of the population); English is however the L2 of many speakers of other L1s (Mesthrie 2002:1).

English is seen as the dominant language in trade and industry, science and technology, politics, and education in South Africa (De Wet 2002; Strauss, Van der Linde, Plekker & Strauss 1999). Despite its relatively small L1 base, English is a second or other language for the majority of South Africans. It is the L1 of approximately 40% of the 10% white South Africans, whereas Afrikaans is the L1 of the other 60%. Afrikaans is furthermore the L1 of 80% of the coloured population of South Africa and it is also the L2 of the majority of English L1 South Africans. English-Afrikaans bilingualism is therefore a widespread phenomenon found in white and coloured communities in South African society (Van Dulm 2007:4).

Which languages one encounters on a regular basis in South Africa depends on where in the country one is located. Currently, isiXhosa is spoken by about 80% of South Africans in the Eastern Cape, whereas isiZulu is spoken by 78% of people in KwaZulu Natal. In the Western Cape, the distribution of Afrikaans, isiXhosa and English (the three official languages of this province) differs from that of the national distribution. Afrikaans is the L1 of 49.7% of the population in the Western Cape, isiXhosa of 24.7% and English of 20.3% (Statistics South Africa 2011:25). It is on the basis of this distribution in the Western Cape that the languages being focused on in this study are Afrikaans, English and isiXhosa. The section below will give a brief outline of the historical background of each language.

3.3 The history of Afrikaans, English and isiXhosa in South Africa: A brief overview

3.3.1 Afrikaans

The formation of Afrikaans has been dependent on three primary groups of people. The first of these was the Dutch settlers who came to South Africa from 1652 onwards, the second was the indigenous Khoekhoe, and the third was the enslaved peoples of African and Asian origin who settled in the Cape Colony from 1658 onwards. Through the influence of these three groups, as discussed below, Afrikaans became a “common vernacular that was quite unique to southern Africa” (Roberge 2002:79).

In the Dutch East India Company era (1652 to 1795), the Dutch-speaking population in the Cape Colony spoke a variety of dialects including that of Utrecht, Zealand, Brabant, Flanders and the eastern provinces of the Netherlands (Roberge 2002:80). A substantial number of Europeans who were not native speakers of Dutch were also to be found in the Cape Colony at the time (from about 1685). These Europeans spoke Low German dialects,³⁶ High German dialects and French.

Language contact between Dutch, Khoekhoe and the languages used by slaves was common in the Dutch East India Company era. Afro-European language contact was difficult, as Dutch and Khoekhoe are mutually unintelligible and typologically very different. Due to the economic pressures on the Khoekhoe, as well as epidemics such as stock disease among animals and small pox among people, the traditional Khoekhoe economy, social structure and political order were collapsing. The decline of Khoekhoe identity and distribution in the Cape Colony was also due to the language shift that occurred. The Khoekhoe dialects spoken in the Cape thus began to dissipate (Roberge 2002:80).

Language contact with the languages spoken by slaves from Angola, Mozambique, Madagascar, the Indonesian subcontinent and Sri-Lanka, amongst others, took place between 1652 and 1808. The main form of interaction between the masters and the slaves and between the slaves themselves was a jargonised form of Dutch (Roberge 2002:82).

³⁶ Low German dialects form part of the dialectal continuum that stretches from the Netherlands through northern Germany (Roberge 2002:80).

Afrikaans has been seen as a language separate from Dutch since 1750, and Roberge (1994b) and Deumert (1999) can be referenced for a fairly established timeline of its development and use up to the turn of the 20th century. One key date in this timeline is 1870, around which time Afrikaans served as the unifying language in the Afrikaner drive for political empowerment. A second Afrikaans movement followed after the First Boer War. It was however only in 1925 that Afrikaans was recognised as the second official language of the then Union of South Africa (Roberge 2002:83), alongside English.

Standard Afrikaans is said to have developed between the 1900s and the 1930s, while at least three other varieties of Afrikaans can also be distinguished, namely Cape Afrikaans (“Kaaps” in Afrikaans), Orange Rivier Afrikaans (“Oranjerivier Afrikaans”) and Eastern Cape Afrikaans (“Oosgrens Afrikaans”). For the purposes of this dissertation, the variety of Kaaps is of importance, as the distribution of the variety extends from Cape Town and the Boland, along the Atlantic coast and the south coast of the Overberg district and the Little Karoo (Roberge 2002:84). This variety, which is based on the varieties of the early slave and Khoekhoe communities of the Western Cape, is mostly used by the Cape Coloureds and the Cape Muslims. The participants in the Afrikaans group were coloured L1 Afrikaans speakers hailing from Stellenbosch (in the Boland), and their variety can thus be classified as Kaaps.

For some people, Afrikaans is still linked with the Afrikaner ruling nationalist party that came into power in 1948. During the apartheid era, Afrikaans was, as one of the then two official languages of the country, used in all official and public business of the government, in courts of law, as one of the LOLTs in schools and universities, and in the private sector. Afrikaans became associated with the racial supremacy ideology and the oppression of the black minority. This, in part, led to black learners in 1976 protesting against Afrikaans as LOLT in black schools (Da Costa, Dyers & Mheta 2013:329). In the post-1994 political dispensation, Afrikaans became one of the 11 official languages of South Africa. Today, Afrikaans is still used as LOLT up to tertiary level, in the business world, in the media and for religious purposes, although (as stated above) English is the dominant language and the lingua franca in all public spheres. Afrikaans is also one of the provincial official languages of five South African provinces, namely the Western Cape, Eastern Cape, Northern Cape, Free State and Gauteng (Da Costa, Dyers & Mheta 2013:329)

3.3.2 English

Like Afrikaans, English has its roots in the Indo-European language family (Mesthrie 2002:11). The first language of the Indo-European language family used in South Africa was Dutch (as explained above, it was introduced to South Africa in 1652). The English language made its way to South Africa during the second invasion of South Africa, by the British, which took place in the late 18th century (Lass 2002:108). Despite two small attempts to colonise South Africa, the British only succeeded to occupy South Africa from 1812 onwards. The presence of the British initially entailed the military or government personnel and their families only. The distribution of English was also mainly concentrated in the contemporary Western Cape. It was only after the pressure from the recession in America, the loss of immigrants to America and frontier problems in the contemporary Eastern Cape that in the 1820s British settlers arrived in the Eastern Cape and constituted the population responsible for a new local variety of English. This local English variety was made up of predominantly rural or urban working class input (Lass 2002:109). Despite the British being a minority in the country at that time, with Dutch the major European language being used, English became the official language in 1822 (Lass 2002:108) and remained the main language used for commerce and the most important aspects of public life despite the establishment of Boer republics such as the Orange Free State (now the Free State Province) and the Transvaal (now Gauteng, Limpopo and Mpumalanga Province and a large part of the current North West Province).

Another variety of English was established by a second influx of British settlers, to Natal (now KwaZulu Natal), in the 1840s and 1850s. This variety of English later became the standard variety of English spoken in South Africa and was based on the English of those speakers from high socioeconomic backgrounds, such as retired military personnel and aristocrats. According to Lass (2002:109), the subsequent waves of influx of English speakers spoke mostly heterogeneous varieties of English and they did not play a large role in the establishment of South African English, unlike the influxes in the 1820s, 1840s and 1850s.

3.3.3 isiXhosa

isiXhosa, the language in South Africa with the second largest L1 speaker base, is a Bantu language, specifically a Nguni language (Louw & Jubase 1963:ix), primarily spoken in the

south-eastern coastal regions of South Africa by, amongst others, approximately 78% of the population in the Eastern Cape and approximately 25% of the population in the Western Cape (SouthAfrica.info). It is also spoken in Botswana, Lesotho and Swaziland (Lewis, Simons & Fennig 2013). Due to the geographical location where it is spoken, isiXhosa has been accessible to travellers, missionaries and linguists throughout the ages, and it was one of the earliest subjects of scholarly study in Bantu Africa (Hvitfeldt 1982:1).

isiXhosa is an agglutinative tonal language, in which sentences are noun-governed (see section 3.4). Many dialects of isiXhosa are recognised, Gaika (Ncqika), Thembu and Gealeka being a few (SouthAfrica.info). The main differences between the dialects are of a phonological and, at times, lexical nature (Louw and Jubase 1963:ix); the description of isiXhosa syntax stays stable across these dialects. The dialects Gaika and Gealeka are seen as the standard or literary form of the language because early literature, as well as the Revised and Union versions of the Bible, was written in these dialects (Hvitfeldt 1982:2).

The Nguni Xhosa territory was also the first of the territories to be incorporated into the Cape Colony at the start of the 19th century. The Xhosa people were thus the first among the Nguni people to receive education in line with the European education system through the missions (although it is not specified whether this education was received in English or isiXhosa). As such, the Xhosa people were able to start integrating into the economic and political spheres of the Cape Colony (Scaraffiotti 2011:7). Today, isiXhosa is used as LOLT in Grades R to 3 in certain schools, with English becoming the LOLT as of Grade 4 onwards.

3.4 Language typology

Typology is the classification of languages according to their structural characteristics and functional features. Greenberg (1963) demonstrated in his study on the universals of grammar, with particular reference to the order of meaningful elements, that languages can be classified typologically according to word order (Mallinson & Blake 1981:3). This classification by word order is done by looking at the placement of the subject (S), object (O) and verb (V) in a sentence. The surface word order in main clauses for each of the languages investigated in this study is SVO. Examples (3.1) to (3.3) below illustrate this order in main clauses (active constructions) in English, Afrikaans and isiXhosa, respectively (adapted from Du Plessis & Visser 1992:9).

	<i>Subject</i>	<u>verb</u>	object
3.1.	<i>The dog</i>	<u>licks</u>	the people
3.2.	<i>Die hond</i>	<u>lek</u>	die mense
3.3.	<i>inja</i>	<u>ikhotha</u>	abantu

According to Biberauer (2002:19), Afrikaans is a verb-second (V2)³⁷ Germanic language. Biberauer (2002:21-22) points out that V2 has been analysed as derived by two movements, namely (a) movement of the finite verb to the C(omplementiser) position, and (b) movement of some phrasal (XP) category to the specifier position of the Complementiser Phrase (spec-CP). Lombard and Conradie (2009:169-171) illustrate how these two movements occur in Afrikaans but not in English. According to Travis (1991), the setting of the V2 parameter is associated with a particular feature of C, the head of CP, which causes a verb to move into C. In the presence of this feature, the verb moves into C; in the absence of this feature, the verb does not move into C. In Afrikaans, the V2 feature is present and forces the verb to move into C. English, by contrast, is a non-V2 language, lacking the V2 feature and hence lacking V-to-C movement (Conradie 2006:72-73). Examples (3.4) to (3.6), taken from Lombard and Conradie (2009:169-170), illustrate the consequences of the parameter setting from which movements (a) and (b) stem in English and Afrikaans non-subject-initial main clauses, i.e., in clauses in which a prepositional phrase (PP), topicalised object (TO) or adverbial phrase (AP) occupies the sentence-initial position.

3.4. PP:	a.	<i>[By die skool]</i> <u>lees</u>	<i>[die leerders]</i>	<i>boeke</i>	√V2	
		<i>*[At school]</i>	<u>read</u> <i>[the learners]</i>	<i>books</i>	*V2	
	b.	<i>*[By die skool]</i>	<i>[die leerders]</i>	<u>lees</u> <i>boeke</i>	*V3	
		<i>[At school]</i>	<i>[the learners]</i>	<u>read</u> <i>books</i>	√V3	
3.5. TO:	a.	<i>[Hierdie brood]</i>	<u>eet</u> <i>[John]</i>		√V2	
		<i>*[This bread]</i>	<u>eats</u> <i>[John]</i>		*V2	
	b.	<i>*[Hierdie brood]</i>	<i>[John]</i> <u>eet</u>		*V3	
		<i>[This bread]</i>	<i>[John]</i> <u>eats</u>		√V3	
3.6. AP:	a.	<i>[In die middag]</i>	<u>lees</u>	<i>[Oupa]</i>	<i>die koerant</i>	√V2
		<i>*[In the afternoon]</i>	<i>reads</i>	<i>[Grandpa]</i>	<i>the paper</i>	*V2
	b.	<i>*[In die middag]</i>	<i>[Oupa]</i>	<u>lees</u>	<i>die koerant</i>	*V3
		<i>[In the afternoon]</i>	<i>[Grandpa]</i>	<u>reads</u>	<i>the paper</i>	√V3

³⁷ Afrikaans was analysed as an underlying SOV language during the 1970s and 1980s, i.e., as having the same matrix embedded asymmetry as found in Dutch, acting as V2 in matrix clauses and as V-final in embedded clauses introduced by an overt complementiser. Based on proposals by Kayne (1984), Zwart (1993, 1994) then proposed an alternative, SVO analysis of Dutch, and since then Oosthuizen (1994, 1996, 1998), Vriends (1998), Conradie (1999) and Biberauer (2002) have proposed the same analysis for Afrikaans. For a specific derivation of Afrikaans' characteristic V2 and V-final orderings, see Biberauer (2002).

The English sentences in examples (3.4) to (3.6) show (i) that the verb must occur in third position (V3), following both the sentence-initial phrase and the subject and (ii) that placing the verb in second position (i.e., preceding the subject) leads to ungrammaticality. English can thus be characterised as a non-V2 language. By contrast, in Afrikaans (as illustrated by the Afrikaans sentences in (3.4) to (3.6) above), placement of the verb in third position leads to ungrammaticality whereas placement of the verb in second position results in a grammatical formation. Afrikaans can thus be characterised as a V2 language.

Du Plessis and Visser (1998:48) illustrate that isiXhosa is underlyingly an SVO language in which the (non-topicalised) object follows the verb. Example (3.3) above shows that the object follows the verb in isiXhosa, rendering an SVO word order. Examples (3.7) to (3.9), show that when a non-subject (PP, TO or AP) occurs in sentence-initial position in isiXhosa, the verb can appear either in second position (as in Afrikaans) or in third position (as in English).³⁸

3.7. PP:	a.	<i>[Esikolweni]</i>	<i>bafunda</i>	<i>iincwadi</i>	<i>[abafundi]</i>	√V2
		at school	they.read	(the) books	(the) learners	
		‘At school, the learners read books’				
	b.	<i>[Esikolweni]</i>	<i>[abafundi]</i>	<i>bafunda</i>	<i>iincwadi</i>	√V3
		at school	(the) learners	they.read	(the) books	
		‘At school, the learners read books’				
3.8. TO:	a.	<i>[Esi sonka]</i>	<i>uyasitya</i>	<i>[uJohn]</i>		√V2
		this bread	he.it.eats	John		
		‘This bread John eats’				
	b.	<i>[Esi sonka]</i>	<i>[uJohn]</i>	<i>uyasitya</i>		√V3
		this bread	John	he.it.eats		
		‘This bread John eats’				
3.9. AP:	a.	<i>[Emva kwemini]</i>	<i>ufunda</i>	<i>iphephandaba</i>	<i>[utatomkhulu]</i>	√V2
		in the afternoon	he.read	(the) paper	(the) grandpa	
		‘In the afternoon, Grandpa reads the paper’				
	b.	<i>[Emva kwemini]</i>	<i>[utatomkhulu]</i>	<i>ufunda</i>	<i>phephandaba</i>	√V3
		in the afternoon	(the) grandpa	he.read	(the) paper	
		‘In the afternoon, Grandpa reads the paper’				

³⁸ The investigation of AGENT and THEME/PATIENT marking along with that of word order in isiXhosa, as well as in Afrikaans and English, is primarily concerned with simple sentences. The word order can thus also be used to indicate either a grammatical function or a pragmatic function. This distinction is important to note as it may play a role in chapters 6 (Quantifiers), 7 (Binding) and 8 (Passives).

In terms of grammatical morphology, Afrikaans is an impoverished language, with no overtly indicated subject-verb agreement or case-marking except in the case of pronouns, whereas English has limited subject-verb agreement and case marking. The placement of the subject and object in Afrikaans and English sentences is thus determined by the syntactic structure of each language. In isiXhosa, the placement is dependent on the specific context in which the sentence is used and the stylistic factors involved in producing the sentence rather than on the sentence's syntactic structure.³⁹ isiXhosa is a highly inflected language, with agreement markers in isiXhosa occurring as prefixed subject and object clitics/agreement markers⁴⁰ to verbs. The appropriate prefix to be used is determined by the class of the relevant noun (there being 15 noun classes in isiXhosa). Due to the agglutinative nature⁴¹ of isiXhosa, it is clear from nominal and verbal inflection what the subject and the object of a sentence are. This means that the lexical subject and object can occur in different surface positions within a sentence because, unlike in the isolating languages⁴² Afrikaans and English, comprehension of the isiXhosa sentence is not dependent on word order; word order does not determine which noun is the subject and which is the object.

For reasons pertaining to the semantic and grammatical interpretation of nouns, it is important to differentiate between the different subclasses of nouns in Afrikaans and English and how this affects the morphology of each language because of the great difference which exists between the morphology of Afrikaans and English, on the one hand, and isiXhosa, on the other. Quirk et al. (1972:128) outline these different subclasses of nouns as in Figure 3.1. Table 3.2 shows why this classification of nouns is important: The class in which a noun falls is important because the manner in which the noun can be pluralised, the article which can precede it (explored in chapter 5) and the quantification which the noun can undergo (explored in chapter 6) depend on its classification and type. The table shows how the different types of nouns are dealt with in terms of creating a plural form and adding a

³⁹ Note that the optionality in subject and verb placement (as illustrated in (3.7) to (3.9) above) is thus not syntactically motivated, nor is it possible within the P&P framework to explain the simultaneous setting of a single parameter (Lombard & Conradie 2009:171).

⁴⁰ See Smouse, Gxilishe, De Villiers and De Villiers (2012:209-236) for an exposition on the debate about Bantu morphosyntax and the terminology which applies to agreement markers. This study will make use of the term "agreement/agreement marker" unless a source explicitly refers to agreement markers as "clitics".

⁴¹ Agglutinating languages have separable affixes on verbs and other roots (Mallinson & Blake 1981:20). The process of agglutination in linguistic morphology is thus a derivation which occurs by means of combining morphemes with single grammatical or semantic meanings to form complex words.

⁴² In isolating languages, words can comprise of one morpheme each (Mallinson & Blake 1981:20).

determiner or quantifier when the noun is used as the object in the English sentence *I like*

43
....

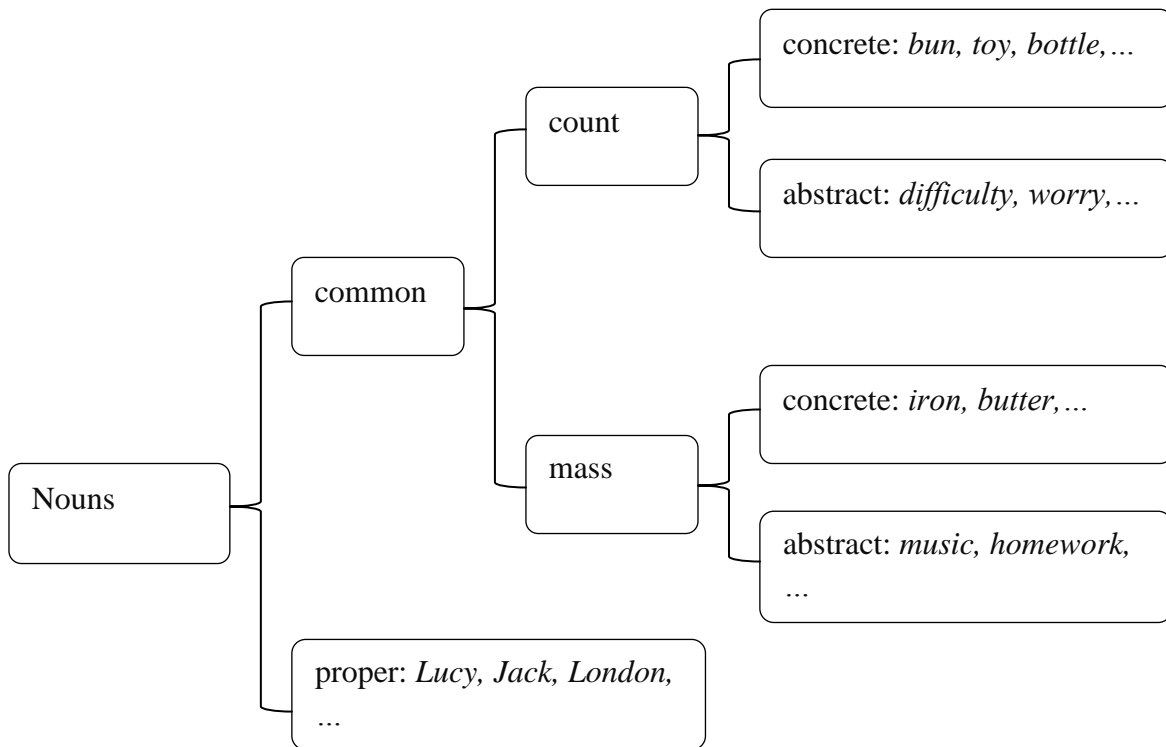


Figure 3.1. The different subclasses of nouns in English

Table 3.2. Determiner differentiation with different noun types in English

Type of modification	Proper nouns	Common nouns		
		Mass nouns	Count nouns	Both Count and Mass noun
Zero / no article	<i>Jack</i>	<i>bread</i>	<i>*bottle</i>	<i>cake</i>
Definite article	<i>*the Jack</i>	<i>the bread</i>	<i>the bottle</i>	<i>the cake</i>
Indefinite article	<i>*a Jack</i>	<i>a bread</i>	<i>a bottle</i>	<i>a cake</i>
Indefinite quantitative	<i>*some Jack</i>	<i>some bread</i>	<i>*some bottle</i>	<i>some cake</i>
Plural	<i>*Jacks</i>	<i>*breads</i>	<i>bottles</i>	<i>cakes</i>

When the above contrasts are examined in Afrikaans with the same sentence (*Ek hou van... ‘I like...’*), the same pattern as in English is apparent (see Table 3.3):

⁴³ Note that in English proper nouns do not have the full range of determinedness and they lack article contrast. Despite the fact that *Jack* and *cake* seem to have the same characteristics when no determiner is added in terms of zero articles, there is an important distinction to be made. The term “zero articles” pertains to nouns, in which article contrast (such as the distinction between no article, a definite and indefinite article may occur with the same noun) is possible and these nouns are generally common nouns. In comparison, the term “no articles” pertains to nouns which cannot undergo article contrast such as proper nouns.

Table 3.3. Determiner differentiation with different noun types in Afrikaans

Type of modification	Proper nouns	Common nouns		
		Mass nouns	Count nouns	Both Count and Mass noun
Zero / no article	<i>Johan</i>	<i>brood</i>	<i>*bottel</i>	<i>koek</i>
Definite article	<i>*die Johan</i>	<i>die brood</i>	<i>die bottel</i>	<i>die koek</i>
Indefinite article	<i>*'n Johan</i>	<i>'n brood</i>	<i>'n bottel</i>	<i>'n koek</i>
Indefinite quantitative	<i>*van die Johan</i>	<i>van die brood</i>	<i>*van die bottel</i>	<i>van die koek</i>
Plural	<i>*Johanne</i>	<i>*brode</i>	<i>bottels</i>	<i>koeke</i>

The classification of nouns in isiXhosa works differently than in English and Afrikaans. All isiXhosa nouns are made up of a noun prefix as well as a noun stem. These prefixes indicate whether the noun is singular or plural as well as the class to which the noun belongs.

isiXhosa nouns are grouped into classes according to the alliterative form of the prefix that the noun receives. With the alliterative grouping of nouns, the words which begin with the same prefix belong to the same group. There are 15 noun classes (13 classes and 2 subclasses). Odd numbered classes as well as class 14 represent singular nouns whereas even numbered classes (except class 14) represent plural nouns (Bryant 2007:11). Different noun classes are also either weak or strong: classes 1, 1a, 3, 4, 6 and 9 are weak noun classes and classes 2, 2a, 5, 7, 8, 10, 11, 14, and 15 are strong. The distinction between weak and strong noun classes indicates the difference in subject agreement, with the combination of consonant-vowel-initial nouns being in the strong classes and vowel-initial nouns being in the weak classes. This distinction plays a vital role in the formation of adjective and relative agreement as well as possessive agreement, which will be outlined below under the subsection dealing with pronouns. Table 3.4 provides a summary of the different isiXhosa noun classes and their associated features.

Table 3.4. Different types of noun classes and corresponding features in isiXhosa

Noun class	Noun class prefix	Additional remarks	Singular / Plural	Weak / Strong	
1	<i>um-</i>	Exclusively human	Singular	Weak	
2	<i>aba-</i>		Plural	Strong	
1a	<i>u-</i>		Singular	Weak	
2a	<i>oo-</i>		Plural	Strong	
3	<i>um-</i>	Almost exclusively non-human	Singular	Weak	
4	<i>imi-</i>		Plural	Weak	
5	<i>ili-</i> (monosyllabic) / <i>i-</i> (polysyllabic)		Singular	Strong	
6	<i>ama</i> (for either <i>ili-</i> / <i>i-</i>)		Plural	Weak	
7	<i>isi</i> / <i>is</i> (if vowel initial noun stem)		Singular	Strong	
8	<i>izi</i> / <i>iz</i> (if vowel initial noun stem)		Plural	Strong	
9	<i>in/ im</i> (both for monosyllabic) <i>in</i> (polysyllabic) <i>im</i> (if noun stem starts with <i>b,p,f,v</i>) <i>i</i> (borrowed word)		Singular	Weak	
	10		<i>izin/izim</i> (both for monosyllabic) <i>iin</i> (polysyllabic) <i>iim</i> (if noun stem starts with <i>b,p,f,v</i>) <i>ii</i> (borrowed word)	Plural	Strong
11			<i>ulu</i> / <i>u</i> (singular) <i>ulu</i> (monosyllabic) <i>u</i> (polysyllabic) (plural for class 11 is class 10)	Singular	Strong
14	<i>ubu/ u</i> (no plural form)		Abstract nouns	Singular	Strong
15	<i>uku</i> (no plural form)		Gerunds	Singular	Strong

As mentioned before, isiXhosa agreement markers occur as subject and object clitics to verbs determined by the class of the relevant noun. The following table outlines the relevant subject and object concords according to the 15 noun classes.

Table 3.5. The different subject and object agreement determined according to noun classes in isiXhosa

Noun classes in isiXhosa	Subject agreement in isiXhosa	Object agreement in isiXhosa
1 st person sing.	<i>ndi-</i>	<i>-ndi-</i>
2 nd person sing.	<i>u-</i>	<i>-ku-</i>
1 st person pl.	<i>si-</i>	<i>-si-</i>
2 nd person pl.	<i>ni-</i>	<i>-ni-</i>
1/1a	<i>u-</i>	<i>-m-</i>
2/2a	<i>ba-</i>	<i>-ba-</i>
3	<i>u-</i>	<i>-wu-</i>
4	<i>i-</i>	<i>-yi-</i>
5	<i>li-</i>	<i>-li-</i>
6	<i>a-</i>	<i>-wa-</i>
7	<i>si-</i>	<i>-si-</i>
8/10	<i>zi-</i>	<i>-zi-</i>
9	<i>i-</i>	<i>-yi-</i>
11	<i>lu-</i>	<i>-lu-</i>
14	<i>bu-</i>	<i>-bu-</i>
15	<i>ku-</i>	<i>-ku-</i>

Examples (3.10) and (3.11) not only illustrate the differentiation in terms of noun classes and the different noun class prefixes involved in the derivation of a noun (outlined in the tables above) but also illustrate the application of the subject and object agreement markers in isiXhosa.⁴⁴

3.10. *Ndiyakuthanda*
Ndi-ya-ku-thand-a
 SM.1ps-ASP-OM.2ps-love-PRES.FV⁴⁵
 ‘I love you’

3.11. *amantombazana amantombazana athanda amaknwenkwe*
ama-ntombazana ama-ntombazana a-thand-a ama-knwenkwe
 NC.6-girls SM.6-like-PRES.FV NC.6-boys
 ‘Girls like boys’

⁴⁴ The specific difference between the different types of nouns is not only valuable to the discussion in terms of the typological differences between the three languages but it is also further valuable for chapter 5 on articles where the distinction between definite and indefinite articles usage is examined and analysed as well the occurrence of and distinction between zero articles and no articles which is apparent in the data. The distinction between mass nouns and count nouns is also relevant to how certain quantifiers can be used with certain nouns and not others in chapter 6 on quantification.

⁴⁵ The abbreviations used in the glosses above are as follows: numeral = number of agreement according to class or person; ASP = aspect; FV = final vowel; NC = noun class; OM = object agreement marker; ps = person singular; PRES = present tense; SM = Subject agreement marker.

In example (3.10), the subject *Ndi* ‘I’ is inflected with the subject agreement marker for the 1st person singular *Ndi* (row one of Table 3.5) as the pre-prefix on the verb. The object *ku* ‘you’ is inflected as the 2nd person singular *-ku-* the prefix on the verb (following the pre-prefix of the subject agreement). In example (3.10), the agreement marker does not appear with an overt object as the marker may appear either with an overt and associated noun phrase (NP) object or without an associated post-verbal position (Visser 1985:28).

In example (3.11), the subject *amantombazana* ‘girls’ is inflected on the verb with the pre-prefix of the subject agreement *a-* (the subject agreement relevant to noun class 6). Here, the object does occur overtly in the post-verbal position. However, the object is not inflected as is the case in example (3.10), because in transitive verbs the clitic is not obligatory on the verb but “may appear on the verb” (Du Plessis & Visser 1992:9). In example (3.11), the use of the noun class prefix is also illustrated. Both the subject and the object fall in noun class 6 and thus have the prefix *ama-* associated with this class.

The syntactic properties of objects in isiXhosa are numerous, due to the agglutinative nature of the language. Those relevant to this study include the use of object, reflexive, reciprocal and pronoun agreement markers, quantifier markers and passive markers (Du Plessis & Visser 1992:9). The object marker is differentiated in 10 different ways in isiXhosa, depending on where and wherefore it is used. These ways of differentiation include using the marker (i) as an empty object marker, (ii) as an agreement marker, (iii) in terms of stylistic movement, (iv) with reduplicated phrases, (v) with coordinated objects, (vi) with relative clauses, (vii) with interrogatives, (viii) with adverbs, (ix) with the quantifiers *onke* ‘every/all’ and *odwa* ‘only’, and (x) as the sentential pronoun which occurs in the object position (Du Plessis & Visser 1992:11-20). The use of the marker in (i), (ii), (iii), (ix) and (x) above plays an important role in amongst others quantification, binding and passive constructions which will be discussed in chapters 6, 7, and 8, respectively. For a descriptive grammar of isiXhosa, see Oosthuysen (1958), Louw and Jubase (1963), Du Plessis and Visser (1992) and Munnik (2006).

3.5 Conclusion

In this study, the acquisition of Afrikaans, English and isiXhosa LDCs is investigated. When analysing the data, some background on the typology of each language will be needed, and

this general background was provided in this chapter. It was also shown that South Africa is a multilingual country in which communication is characterised by multilingual and bilingual interaction. The diverse backgrounds of the languages were briefly discussed. This discussion is meant to serve as information on the greater context in which the present study was conducted. The previous chapter addressed language acquisition from a theoretical and psycholinguistic point of view (in order to explore the language internal world of the child) as well as from a social point of view (by outlining those factors external to the child that can influence language development), in order to provide greater insight into the process of language development. This developing Afrikaans, English and isiXhosa knowledge of the participants in this study had to be tapped. In the next chapter, I discuss the method of data collection and analysis. Included in this discussion is information on the REALt, the language assessment instrument selected for use with the child speakers of the three languages in this study.

Chapter 4

Research design and methodology

4.1 Introduction

In this chapter, the research design and methodology followed in the study will be described. This description includes (i) the methods by which participating schools and participating learners were selected, (ii) participant information obtained from language background questionnaires for the Afrikaans, English, and isiXhosa LOLT groups, respectively, (iii) the data collection instrument used, and (iv) the data collection and analysis procedures.

This chapter will also focus on the methodological difficulties encountered during the study. The challenges encountered with regard to the selection of schools and participants, data collection as well as data analysis will be included under each subsection. These methodological challenges are discussed here, rather than in the general discussion at the end of the dissertation, because they not only affected the results obtained during the study, but also influenced the manner in which data were collected and analysed.

4.2 General design of the study

The study was empirical and both qualitative and quantitative in nature. Quantitative data were collected by means of assessment of children's mastery of the LDCs at the start and again at the end of their Gr 1 year by using an array of language comprehension and production tasks. The study took on a cross-sectional and longitudinal design in order to determine which LDCs Gr 1 learners can comprehend and produce at the start of Gr 1 (cross-sectional), and also what progress said learners make during their Gr 1 year with regard to understanding and producing these constructions (longitudinal). An informal language assessment instrument, the REALt (Southwood & Van Dulm 2012a), was used to assess the following LDCs: constructions containing articles, quantifiers, ellipsis, conjunctions and binding relations; passive constructions; and simple and complex *wh* questions. To reduce the scope of the dissertation, only the data on articles, quantifiers, binding relations and passive constructions were included here. There were three participant groups (all from low SES

areas), one each from an Afrikaans-medium, an English-medium, and an isiXhosa-medium rural Western Cape school.

According to Wei and Moyer (2008:89), a study tracking changes in behaviour over time or evaluating the effect of educational and clinical intervention requires a longitudinal design. The nature of research question 1 (which asks what development in the comprehension and production of LDCs by children in Afrikaans-, English and isiXhosa medium schools takes places between the start and the end of Gr 1) lends itself to a longitudinal design, by examining the change which takes place over the course of a school year. In cross-sectional studies, by contrast, data are usually collected at only one point in time. One purpose of cross-sectional studies is to explore the relationship between variables. According to Wei and Moyer (2008:89), “in studies of this type, subjects are often grouped according to different variables and their performance or behaviour is sampled. The differences or similarities in their performance or behaviour will be used to interpret the role of the variables in the particular behaviour.” In the cross-sectional part of this study, participants were grouped according to the variables L1 (isiXhosa as L1) and LOLT (English as LOLT vs. isiXhosa as LOLT) to see if and how the level of mastery of LDCs differs for these two LOLT groups (which relates to research question 2).

The REALt was used as a tool for data collection within an action research methodology. The term “action research”, coined by Lewin (1946), involves a cyclic process in which a researcher or a research group follows a series of steps that include planning, observing and evaluating the effects of a specific action which is to be researched (Gray 2004:378). Gray (2004:378) states that action research can move in multiple directions despite the fact that it involves a neatly planned and orderly process; action research thus occurs in overlapping stages and, in time, some activities run parallel to each other. According to Lewin in Gray (2004:373), action research seeks to combine theory building and research on practical problems, which is why action research entails social experiments in natural and social settings (in the case of this study, in a school environment) and not in artificial and controlled experiments in laboratories. Action research thus involves a gestaltist perspective, in which not only a single variable needs to be taken into account, but in which issues should be understood within a holistic social system (Gray 2004:374).

Throughout the years, many different approaches to action research have been developed, such as participatory action research; external action research and cooperative enquiry (see Gray 2004:374 for an exposition of each). This study used an amalgamation of different action research processes (as well as the general action research model explicated in Figure 4.1 below) for planning purposes, to make the data collection process as efficient as possible. During the planning stage, consideration was given to (i) why certain activities are required during the data collection process, (ii) what actions need to be taken, (iii) how tasks are to be accomplished, (iv) who would be to be responsible for each activity, (v) where the tasks are going to be performed, and (vi) when the activities are going to commence and when are they going to be completed (adapted from Gray 2004:379).

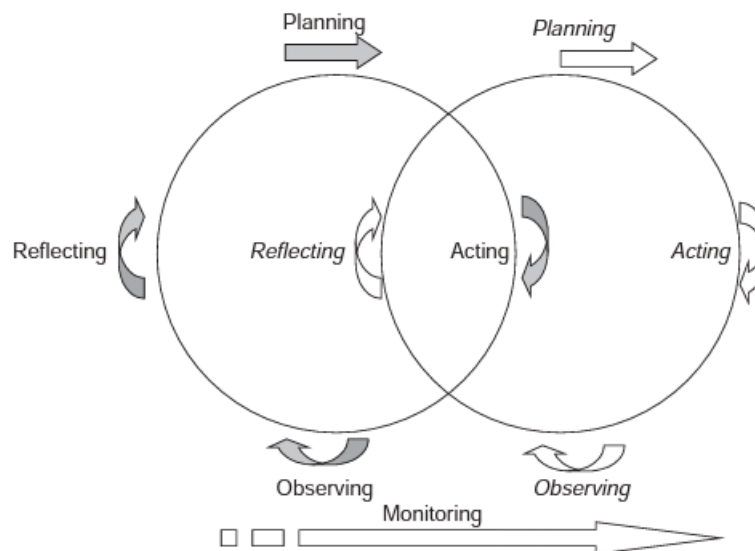


Figure 4.1. The action research model (Gray 2004:379)

In action research, the role of each researcher or fieldworker is seen as that of a facilitator who helps shape the research. Fieldworkers also play an important role in the implementation of the research plan, by helping with the identification and analysis of weak areas in the plan and taking responsibility for helping to fill any gaps in the plan. Because the study worked with a large number of LDCs, participants, fieldworkers and multiple variables which can affect data collection, the amalgamation of participatory action research, action science and cooperative enquiry with aid of the action research model seemed to be a suitable methodology to use in the study. In the next sections, the research protocol followed in this study is explained.

4.3 Selection of schools

The goal was to identify three Western Cape schools, one each in which Afrikaans, English and isiXhosa served as both the L1 of the learners as well as the LOLT. These schools also had to be similar in terms of (i) being situated in communities with low SES and having a National Quintile level 3 or lower (i.e., be non-fee-paying schools) and (ii) having the same geographical classification (i.e., all being rural schools or all being urban schools). Furthermore, they preferably all had to have aftercare facilities for Gr 1 learners and be within easy driving distance from Stellenbosch town centre. The latter two requirements were set for practical reasons: Data collection had to occur during the first and last school term of the year, and the Western Cape Department of Education typically does not allow research of this nature in schools during school hours in these terms. This necessitated collecting data from learners in the afternoons, which in turn necessitated aftercare facilities (or a venue in which I could create such facilities for the duration of the data collection period). Further, the amount of research funding at my disposal did not allow for high travelling costs, and it was important for the aims of the study to collect data within a short period of time, hence as little time as possible was to be spent on travelling to and from the research sites.

The identification of potential participating schools on the basis of the LOLT and National Quintile was challenging, with only six schools on the Department of Basic Education's database meeting my criteria: four Afrikaans-medium, one English-medium and one isiXhosa-medium. These schools were contacted to enquire about their willingness to participate but also about (i) their number of Gr 1 learners (a sufficient number of learners was required to allow for participant attrition but still allow data collection from at least 30 learners during the second collection period at the end of the Gr 1 year), (ii) the actual (as opposed to official) LOLT in Gr 1 classrooms, (iii) aftercare facilities (or the possibility of such facilities being set up on the school grounds), and (iv) transport possibilities for those learners taking part in the study. It was difficult to obtain this information from the schools, because the contact persons were often unavailable for extended periods. Where such persons could be contacted, permission letters were sent to principals in order to obtain formal permission to invite their learners to participate in the study. Feedback on these letters was

not forthcoming; several phone calls and, in some cases, personal visits had to be made in order to obtain said permission.⁴⁶

A particular difficulty obtaining an English data collection site necessitated a change in research design: The only school in the greater Stellenbosch area that taught L1 English-speaking learners in English had a National Quintile of 4. Gr 1 learners in the only English-medium school with a low enough National Quintile to qualify to serve as data collection site in this study spoke English as L2 or L3. Whereas the original study design entailed comparisons among three groups of L1 speakers (Afrikaans, English, and isiXhosa) who all received tuition through the medium of their L1, it was now necessary to

- (i) consider the data of the Afrikaans and isiXhosa L1 speakers separately. Due to the vast typological differences between the two languages and the difference in culture (amongst other things) between their speakers, it did not seem sensible to compare these two groups. Rather, each group's beginning-of-the-year data were now going to be compared to its end-of-the-year data. Despite the fact that it is tempting to compare the Afrikaans LOLT with the isiXhosa LOLT group (because both groups receive tuition in their L1), such a comparison would not be meaningful to make as the structures of the languages are different and are in effect not comparable.
- (ii) compare the isiXhosa L1 speakers who received tuition through the medium of their L1 and those who received tuition through the medium of English, their L2 or L3.

Thus the unavailability of a qualifying English-medium school (i.e., a low SES school attended by L1 English children) introduced an additional variable. For this reason, instead of making two- and three-way inter-L1 comparisons, only one comparison will be drawn, namely that between the English LOLT and isiXhosa LOLT groups (at the beginning and again at the end of their Gr 1 year).

Three selected schools met the selection criteria in the sense that they all

- (i) were classified as rural schools. One school serviced a small rural community and its surrounding farms; one school was situated in a black township on the outskirts

⁴⁶ Note that the principals were not necessarily unwilling to consider the study or provide permission for their learners to be invited to take part in the study. When visited or during telephone conversations, they were courteous and seemed genuinely interested in the research. The reason for their tardy responses appeared to be work and time pressure rather than disinterest.

of a rural town; and one school serviced a geographically isolated mixed-race township and nearby farms.

- (ii) were situated in close proximity (within a 10 km radius) to Stellenbosch town centre.
- (iii) had a National Quintile of lower than 4. The Afrikaans-medium school had a National Quintile of 2, the English-medium school 3, and the isiXhosa-medium school 1.

The last selection criterion, namely the LOLT being the same as the learners' L1, could only be met for the Afrikaans- and isiXhosa-medium schools. Of the three schools, two provided transport for their learners to and from school (the township school did not; the vast majority of their learners walked to and from school),⁴⁷ and none had aftercare facilities. I thus arranged an aftercare club at each school for participants for the duration of the period during which data were collected at that school.

4.4 Selection of participants

The Afrikaans-medium school had four Gr 1 classes; participants came from three of these. The isiXhosa-medium school had three Gr 1 classes and all participants in this group were selected from one of these. The third school was a parallel-medium school in which there is an Afrikaans- and an English-medium stream of instruction. The participants for the study were selected from three Gr 1 classes in the English-medium stream. In each case, the selection was done on the basis of voluntary participation, parental consent and child assent. All Gr 1 learners at each school received an information letter and a flyer to inform the parents about the purpose of the study, the days and hours (after school) during which data would be collected, what their children would be doing during these hours, and what the testing would entail. Parents also received a background information questionnaire to complete. Parents who wanted their children to participate signed a parental consent form and the children were requested to sign a child-friendly assent form before they could be included as participants.⁴⁸ Those learners whose parents returned the signed consent form but not the completed questionnaire were still included as participants. The learner him-/herself and/or

⁴⁷ Recall that learners at all three schools were exempt from paying school fees and that the learners were all from low SES homes.

⁴⁸ Copies of the English version of the initial letter to the parents as well as the child and parental consent forms appear in Appendices A to C. The English version of the background information questionnaire appears in Appendix D.

their teachers were then asked for basic biographical information on the learners, such as their dates of birth or L1.

As the success of the data collection process is directly proportional to the success of participant recruitment, it is important to note that disconcertingly few completed parental consent forms were returned. At the Afrikaans-medium school, for example, only 15 of the 100 forms initially handed out were returned on time. More forms were however returned after the stated last return date (which complicated the planning of aftercare activities and the arrangement of refreshments for participants), and a sufficient number of participants could then be recruited. Of note, however, is that a number of those learners who returned signed consent forms (with parents' addresses and contact numbers) did not attend the first day (or subsequent days) of data collection, and that some learners who did not initially return a form (and for whom no parental contact details were available at the time) did attend the data collection sessions. Furthermore, some learners in the latter group, who could not take part in the data collection activities, did attend the temporary aftercare facilities, again complicating catering and transport arrangements. As was the case with the participants who did return consent forms, the latter group also attended erratically. As mentioned above, at the Afrikaans- and English-medium schools, the participants were from multiple Gr 1 classes, which required close coordination with several teachers. At the isiXhosa-medium school, all learners were from one class, which simplified participant recruitment.

During the first round of data collection, 95 Gr 1 learners were assessed: 31, 32 and 32 in the Afrikaans-, English- and isiXhosa-medium school, respectively. During the second round of data collection, five of these children (four in the Afrikaans- and one in the English-medium school) were not available for retesting. Parents either did not consent to their participation in the second round of testing or the learners had transferred to a different school. The following section will only include participant information of the 89 learners who could be assessed at both the beginning and the end of 2013.

4.5 Participant information

In this section, information is provided per school on the characteristics of those 89 participants whose data were included for analysis in this dissertation. This information includes (i) individual biographical information regarding age, gender and place of birth, (ii)

the individual language profiles according to language exposure, (iii) language and educational exposure as well as (iv) social language profiles according to extended social relationships.

4.5.1 Participants from the Afrikaans-medium school

4.5.1.1 Information regarding age, gender and place of birth

The ages of the 27 monolingual L1 Afrikaans participants (henceforth “Afrikaans participants”, “Afrikaans group” or “Afrikaans LOLT group”) who took part in the study ranged from 6;0 years to 7;6 years on the day on which data collection started (21/01/2013) in Phase 1 of data collection and 6;9 years to 8;3 years in Phase 2 (on 07/10/2013). Of these 27 participants, 17 were female and 10 male. None were identified by either their parents or teachers as having any disorders and they can thus all be assumed to be typically developing according to their community’s norms.

Seventeen of the participants were born in Stellenbosch (a predominantly Afrikaans-speaking town) and had never lived elsewhere. Another four moved to Stellenbosch sometime after birth (two from Cape Town and one from Worcester, with the other one’s parent indicating the s/he was born in Tygerberg, a tertiary-level provincial hospital approximately 30 km from Stellenbosch), but it was not indicated when said moving took place. For another six participants, it was not indicated where they were born. There are no data on the language profiles of Participants A2, A7, A10 and A11, because their parents did not return the language background questionnaire. Table E.1 in Appendix E provides a detailed summary of personal information regarding age, gender and place of birth.

4.5.1.2 Individual language profiles according to language exposure

For the Afrikaans LOLT participants, Afrikaans was the main language used by their parents from birth up to the time of the commencement of this study. Only three of the 27 participants received exposure to another language, English: one from the parents, since birth; one from an unspecified source; and the other from exposure to television since the age of 4 years. The latter child also received exposure to isiXhosa from his grandparents, since the age of 5 years. Of those three, only one received exposure to English since birth. The input

received from parents in the Afrikaans group thus seems to be fairly homogenous across the different families.

4.5.1.3 Participant information regarding language and educational exposure

The nature of preschool language input that children received was heterogeneous. Only 16 of the 27 children attended a playschool or another pre-Gr 1 educational facility (eight facilities in total) during their early childhood years, of which only one participant received education or input in English. The other 11 children did not attend a pre- or playschool and received language input during their early childhood years from their family and friends.

4.5.1.4 Social language profiles according to extended social relationships

Table 4.1 provides a summary of the language input received from family and friends which was mentioned in section 4.5.1.3 above. In the majority of cases, Afrikaans was the main language of input between family, friends and school. Based on the table below, 11 of the Afrikaans participants are completely monolingual (Participants A1, A4, A6, A8, A13-14, A17, A23-24, A26-27); eight are Afrikaans L1 speakers and are able to only understand but not speak English (A3, A5, A9, A13, A18, A21-22 and A25); and four are bilingual and can speak both Afrikaans and English (A12, A16, A19-20).

Table 4.1. Summary of Afrikaans participants' language profiles according to extended social relationships⁴⁹

Participants	Mother tongue of the child	Other language that child can understand but not speak	Other language that child can understand and speak	L1 mother	L1 father	Other languages spoken by mother	Other languages spoken by father	Language used by the child				
								at home with caregivers	with siblings	with friends	at school	with other family members
A1	Afr	n/a	n/a	Afr	Afr (grandfather)	n/a	n/a	Afr	Afr	Afr	Afr	Afr
A2	n.d.											
A3	Afr	Eng	n/a	Afr	Afr	Eng	Eng	Afr	Afr	Afr	Afr	Afr
A4	Afr	n/a	n/a	Afr	Afr	n/a	n/a	Afr	Afr	Afr	Afr	Afr
A5	Afr	Eng	n/a	Afr	Afr	n/a	n/a	Afr	Afr	Afr	Afr	n.i.
A6	Afr	n/a	n/a	Afr	Afr	Eng	Eng	Afr	Afr	Afr	Afr	Afr
A7	n.d.											
A8	Afr	n.i.	n/a	Afr	Afr	n/a	n/a	Afr	Afr	Afr	Afr	Afr
A9	Afr	Eng	n/a	Afr	n/a	n/a	n/a	Afr	Afr	Afr	Afr	n.i.
A10	n.d.											
A11	n.d.											
A12	Afr	n/a	Eng	Afr	Afr	Eng	Eng	Afr, Eng	Afr, Eng	Afr	Afr	Afr, Eng
A13	Afr	n/a	n/a	Afr	isiX, Afr	n/a	n/a	Afr	Afr	Afr	Afr	Afr
A14	Afr	n/a	n/a	Afr	Afr	Eng	isiX, Eng	Afr	Afr	Afr	Afr	Afr
A15	n.d.											
A16	Afr	n/a	Eng	Afr	Afr	Eng	Eng	Afr	Afr	Afr	Afr	Afr
A17	Afr	n/a	n/a	Afr	Afr	n/a	n/a	Afr	Afr		Afr	n/a
A18	Afr	Eng	n/a	Afr	n/a	Eng	n/a	Afr	Afr	Afr	Afr	Afr
A19	Afr	n/a	Eng	Afr	Afr	Eng	Eng	Afr	Afr	Afr	Afr	Afr, Eng
A20	Afr	n/a	Eng	Afr (grand-mother)	Afr (grandfather)	Afr, isiX	Afr, isiX, Sesotho	Afr	Afr	Afr	Afr	n.i.
A21	Afr	Eng	n/a	Afr	Afr	n/a	n/a	Afr	Afr	Afr	Afr	Afr
A22	Afr	Eng	n/a	Afr	Afr	Afr	Afr	Afr		Afr	Afr	
A23	Afr	n/a	n/a	Afr	Afr	n/a	n/a	n.i.	n.i.	n.i.	n.i.	n.i.
A24	Afr	n/a	n/a	n.i.								
A25	Afr	Eng	n/a	Afr	Afr	Eng	n/a	Afr	Afr	Afr	Afr	n.i.
A26	Afr	n/a	n/a	Afr	Afr	n/a	n/a	Afr	Afr	Afr	Afr	Afr
A27	Afr	n/a	n/a	Afr	Afr	n/a	n/a	Afr	Afr	Afr	Afr	Afr

4.5.2 Participants from the English-medium school

4.5.2.1 Information regarding age, gender and place of birth

Thirty-one multilingual, L2 English participants (henceforth “English participants”, “English group” or “English LOLT group”, even though their L1 is predominantly not English) took

⁴⁹ Note that *n.i.* stands for “not indicated” and is used when information is not available for the specific question as the parents did not fill in the question, in comparison to *n.d.* which stands for “no data” and is used when no language background questionnaire was available as nothing was received back from the parents.

part in the study. Their ages ranged from 6;0 years to 7;6 years on the first day of Phase 1 of data collection (04/02/2013) and from 6;9 years to 8;2 years in Phase 2 (specifically on 21/10/2013). Of the 31 participants, 17 were female and 14 male. As was the case for the Afrikaans participants, none of the participants were identified by either their parents or teachers as having any disorders and could thus be assumed to be typically developing according to the norms of their community.

Thirteen of the English participants were born in Stellenbosch and never moved away. The region in which they had received input and in which language acquisition had taken place has thus been stable and homogenous in comparison to the nine other participants. Of those nine participants, four were born in Cape Town and their parents later moved to Stellenbosch, whereas two were born in Johannesburg and another two in the Eastern Cape. The ninth participant grew up in the Western Cape, but it is not specified where. The place of birth in this case plays an important role, because it means that the regional languages and language varieties to which the participants may have been exposed are heterogeneous, and this might affect the characteristics of their language. Unfortunately, there was no indication of the age at which the children's families moved to Stellenbosch. For nine of the English participants (E5, E9, E10, E14, E15, E18, E23, E27 and E30), there are no data on language background as the parents did not return the questionnaire. Table E.4 in Appendix E provides a detailed summary of personal information regarding age, gender and place of birth of the English participants.

4.5.2.2 Individual language profiles according to language exposure

In comparison to the Afrikaans group, the exposure to other languages for the participants receiving tuition in English is much more heterogeneous. Firstly it is clear that the Afrikaans group's participants didn't have much exposure to playschools or preschools. This is however not the case with the English group. The multilingual nature of these participants' language profiles are evident from the summary given in Table E.5 of Appendix E.

4.5.2.3 Participant information regarding language and educational exposure

In comparison to the Afrikaans group, the exposure to other languages for the participants receiving tuition in English was far more heterogeneous. Recall that the Afrikaans group's participants did not have much exposure to playschools or preschools. This is however not the case with the English group: 18 of the 31 children attended a playschool or pre-Gr 1

educational facility (21 facilities in total) during their early childhood years; no data on this were available for the remaining 13 participants. Note the heterogeneous nature of the language of instruction in these facilities: isiXhosa in the case of seven participants, English for two participants, Afrikaans for one, a combination of English and isiXhosa for one, a combination of Afrikaans, English and isiXhosa for three and a combination of Afrikaans and English for one, with no data on language of instruction being available for the remaining three of those 18 participants who attended a preschool facility. The languages to which the English group were exposed are summarised in Table 4.2 further below.

4.5.2.4 Social language profiles according to extended social relationships

As can be seen in Table 4.2, the social language profiles of the English LOLT group are more diverse than those of the Afrikaans group:

- (i) Two of the 31 participants (E5 and E17) are isiXhosa L1 and only started learning English at school (whether they learned English from the start of Grade R or the start of Gr 1 was not indicated). Another three participants are also isiXhosa L1 speakers and have probably learned English at school as no other place is indicated (E13, E21 and E28).
- (ii) Two (E12 and E20) speak isiXhosa as a L1 and are able to understand but not speak English. Participants E1, E16, and E19 are L1 speakers of English who can understand but not speak Afrikaans, whereas Participant E26 is a L1 speaker of English who can understand but not speak isiXhosa.
- (iii) Another two (E3 and E4) are bilingual, speaking isiXhosa as their L1 and English as their L2. A further two participants (E2 and E6) use English as L1 and are able to only understand but not speak isiXhosa. Participant E24 seems to be bilingual, because the only data given are that the caregivers/parents use Afrikaans and English.
- (iv) Three of the 31 participants speak isiXhosa as L1 and have indicated the use of at least two other languages (making them multilingual), such as Participant E8 who speaks isiXhosa as L1 and can understand but not speak both English and Afrikaans.
- (v) Participant E22 is an isiXhosa-English bilingual who also received isiZulu input and can understand but not speak Afrikaans. Participants E7 and E29 are also isiXhosa-English bilinguals who can understand but not speak Afrikaans.

Table 4.2. Summary of English participants' language profiles according to extended social relationships

Participants	Mother tongue of the child	Other language that child can understand but not speak	Other language that child can understand and speak	L1 mother	L1 father	Other languages spoken by mother	Other languages spoken by father	Language used by the child				
								at home with caregivers	with siblings	with friends	at school	with other family members
E1	n.i.	Afr	Eng	isiX	isiX	Eng Afr	Eng Afr	isiX	isiX	isiX	Eng	isiX
E2	Eng	n/a	isiX	isiX	isiX	Eng	Eng	isiX Eng	isiX	isiX	isiX Eng	n.i.
E3	isiX	n/a	Eng	isiX	isiX	Eng	Eng	isiX	isiX	isiX	Eng	isiX
E4	n.i.	n/a	isiX Eng	isiX	isiX	Eng	n/a	isiX	isiX	isiX	Eng	isiX Eng
E5	isiX	n/a	n/a	isiX	isiX	isiX	n/a	isiX	isiX	isiX	Eng	isiX
E6	Eng	isiX	n/a	isiX	Eng	n/a	n/a	Eng	Eng	isiX Eng	Eng	Eng
E7	isiX Eng Afr	Afr	Eng isiX	isiX	isiX	Eng	Eng	isiX Eng	isiX Eng	isiX Eng	Eng Afr	isiX Eng
E8	isiX	Eng Afr	isiX	isiX	isiX	Eng Afr	Eng Afr	isiX	isiX	isiX Eng Afr	isiX Eng Afr	isiX Eng
E9	n.d.											
E10	n.d.											
E11	Eng	Eng	n/a	n.i.	n.i.	isiX	Afr	isiX	isiX	isiX	n.i.	n.i.
E12	isiX Eng	Eng	isiX	isiX	n.i.	n.i.	n.i.	isiX	Eng Afr	isiX	n.i.	isiX
E13	isiX	n/a	n/a	isiX	isiX	n.i.	n.i.	isiX	isiX	isiX	n.i.	isiX
E14	n.d.											
E15	n.d.											
E16	Eng	Afr	n/a	isiX	isiX	isiX Eng Afr	isiX Eng	isiX Eng	isiX	isiX	Eng	isiX
E17	isiX Eng	Eng	isiX	isiX	isiX	Eng	Eng	isiX Eng	isiX	isiX	isiX Eng	isiX
E18	n.d.											
E19	Eng	Afr	n/a	isiX	isiX Eng	Eng	Eng	isiX Eng	Eng	Eng	Eng	isiX
E20	isiX	Eng	n/a	isiX	isiX	n/a	n/a	isiX	n.i.	n.i.	Eng	n.i.
E21	isiX	Eng	n/a	isiX	isiX	n/a	n/a	isiX	isiX	isiX	isiX	isiX
E22		a bit of Afr	Eng	Zulu	Zulu	isiX Eng	isiX Eng	Zulu isiX Eng	n.i.	n.i.	n.i.	isiZulu isiX Eng
E23	n.d.											
E24	n.i.	n.i.	n.i.	n.i.	n.i.	n.i.	n.i.	isiX Eng	n.i.	n.i.	n.i.	n.i.
E25	n.d.											
E26	Eng isiX Afr	isiX	Eng	n.i.	n.i.	n.i.	n.i.	isiX	isiX	isiX	Eng	n.i.
E27	n.d.											
E28	Eng isiX	Eng	isiX	isiX	isiX	n/a	n/a	isiX	isiX	isiX	Eng	n.i.
E29	Eng	Afr	Eng isiX	isiX	isiX	Eng	Eng	Eng	isiX	isiX	Eng	isiX
E30	n.d.											
E31	Eng	Afr	n/a	Eng	isiX	n/a	Eng	isiX Eng	isiX	isiX Eng	Eng	isiX

- (vi) Participant E11's mother tongue was indicated as being English (despite E11 having had parental input in isiXhosa from birth), but s/he can only understand and not speak English (despite having had English input at crèche from the age of 3 years). Another anomalous case is that of participant E31 who received parental input in isiXhosa but for whom English is indicated as the L1 – despite the fact that neither English nor isiXhosa is indicated as a language which can be spoken, while Afrikaans can be understood but not spoken. These latter two cases exemplify (i) the difficulties that adults with low literacy skills at times may have in completing questionnaires, and (ii) the fact that many parents who enrol their children in schools with English as LOLT are eager to portray their children as proficient speakers of English, for fear of having their child moved to a school that employs as LOLT their child's mother tongue instead of English.

4.5.3 Participants from the isiXhosa-medium school

4.5.3.1 Information regarding age, gender and place of birth

Thirty-one monolingual L1 isiXhosa participants (henceforth “isiXhosa participants”, “isiXhosa group” or “isiXhosa LOLT group”) took part in the study. Their ages ranged from 6;0 years to 7;6 years on the day data collection started in Phase 1 (on 18/02/2013) and 6;10 years to 9;7 years at the start of Phase 2 (on 04/11/2013). Of these 31 participants, 16 were female and 15 male. None of the participants were identified by either their parents or teachers as having any disorders, disabilities, chronic medical conditions or special learning needs and they can thus be assumed to be typically developing according to community norms.

Sixteen of the participants were born in Stellenbosch and never moved away. The region in which they have received input and in which language acquisition has taken place has thus been stable and homogenous in comparison to the other 15 participants whose parents completed the background information questionnaire. Of the latter 15, four were born in Cape Town and their parents later moved to Stellenbosch whereas one was born in Tygerberg Hospital (which means that the parents lived somewhere in the Western Cape Province at that time) and one in the Eastern Cape. Another participant was born in the Western Cape but the specific place was not indicated.

The children who were not born in Stellenbosch will have language profiles that look dissimilar to those children who have stayed in the Stellenbosch area their whole lives. It was however not indicated at which time in the children's lives their families moved to Stellenbosch. For eight of the participants, it was not indicated where they were born. There are no data on the language profiles of Participants X5, X8, X13, X18, X25 and X27, as the parents did not return the background information questionnaire. Table E.6 in Appendix E provides a detailed summary of personal information regarding age, gender and place of birth.

4.5.3.2 Individual language profiles according to language exposure

From the information in Table 4.3 further below, it is clear that isiXhosa was used as the main language of input by the parents of the isiXhosa participants from birth up until the time of the study. Recall that a similar observation was made for Afrikaans with the Afrikaans group. Only eight of the 31 participants received exposure to another language: in six instances to English and in two to Afrikaans. Of those eight, one (one case of Afrikaans) was from parents from birth onwards. The input received from parents in the isiXhosa group thus seems to be fairly homogenous across the different families, as was the case for the Afrikaans group.

4.5.3.3 Participant information regarding language and educational exposure

The exposure and language input that the isiXhosa children received was of a homogeneous nature. Approximately a quarter of the children in the isiXhosa group had not attended a playschool during early childhood (23 out of 31 participants attended a total of 17 different institutions, with some overlap between those institutions attended by the English and isiXhosa groups). The range of language input and the exposure to languages in the isiXhosa group in these pre-Gr 1 educational settings were however much wider than was seen in the Afrikaans group: nine participants received input in isiXhosa only, another nine in English and isiXhosa, and one in English only. Here, again, it can be assumed that the other children in the group had not attended a pre- or play school and received input during the early childhood years from their family and friends only.

4.5.3.4 Social language profiles according to extended social relationships

Table provides a summary of the language input received by the isiXhosa group from family and friends which was mentioned in the subsection above. For the isiXhosa group, it appears

that the language input received from family, friends and school is closer to that seen in the English group than in the Afrikaans group, as approximately half of the participants (14) receive input in Afrikaans, English and isiXhosa and use these three languages with family and friends and at school.

Table 4.3. Summary of isiXhosa participant's language profiles according to extended social relationships

Participants	Mother tongue of the child	understand but not speak	understand and speak	L1 mother	L1 father	other languages spoken by Mother	other languages spoken by Father	Language used by the child				
								at home with caregivers	with siblings	with friends	at school	with other family members
X1	isiX	Eng	n/a	isiX	isiX	Eng	Eng	isiX	isiX	isiX	isiX	isiX
X2	isiX	Eng	n/a	isiX	isiX	Eng	n.i.	isiX	isiX, Eng	isiX	isiX, Eng	isiX, Eng, Afr
X3	isiX	n/a	n/a	isiX	Afr	Afr	n/a	isiX	isiX	isiX	isiX	isiX, Afr
X4	isiX	Eng	n/a	isiX	isiX	Eng	n/a	isiX	isiX	isiX	isiX, Eng	n.i.
X5	n.d.											
X6	isiX	Eng,Afr	n/a	isiX	isiX	Eng, Afr	n/a	Afr,Eng	isiX	isiX	isiX, Eng, Afr	isiX
X7	isiX	Eng,Afr	n/a	isiX	n/a	Eng, Afr	n/a	isiX	isiX	isiX	isiX	n.i.
X8	n.d.											
X9	isiX	Eng (2) n.i.	Afr (3) n.i.	isiX	isiX	Eng, Afr	Eng, Afr	isiX	Eng	Eng, Afr	isiX	Eng
X10	isiX	Eng	n/a	isiX	n/a	Eng	n/a	isiX	isiX	isiX	isiX, Eng	isiX
X11	isiX	Eng	n/a	isiX	isiX	Eng	n/a	isiX	isiX	isiX	isiX	isiX
X12	isiX	n/a	Eng	isiX	isiX	Eng	Afr	isiX	n/a	isiX	isiX	isiX
X13	n.d.											
X14	isiX	n/a	n/a	isiX	isiX	Eng	n/a	isiX	isiX	isiX	isiX	isiX
X15	isiX	Afr, Eng	n/a	isiX	isiX	Eng	Afr	isiX, Eng	n/a	isiX	isiX, Eng	isiX, Eng, Afr
X16	isiX	n/a	n/a	isiX	n/a	n/a	n/a	isiX	isiX	isiX	isiX, Afr, Eng	isiX
X17	isiX	n.i.	n/a	isiX	isiX	Eng	n/a	isiX	isiX	isiX	n.i.	n.i.
X18	n.d.											
X19	isiX	n.i.										
X20	isiX	Eng	n/a	isiX	n/a	Eng, Afr	n/a	isiX	isiX	isiX	isiX	Eng, Afr
X21	isiX	Eng	n/a	isiX	isiX	Eng	n/a	isiX	isiX	isiX, Afr	isiX	isiX
X22	isiX	Eng	n/a	isiX	n/a	n/a	n/a	isiX	isiX	isiX	isiX	isiX
X23	isiX	Eng	n/a	isiX	Eng, Afr	isiX	Eng, Afr	isiX	isiX	isiX	isiX, Eng	isiX
X24	isiX	Afr, Eng	n/a	isiX	n/a	Eng	n/a	isiX	isiX	isiX	isiX, Eng	isiX
X25	n.d.											
X26	isiX	n.i.										
X27	n.d.											
X28	isiX	Eng	n/a	isiX	n/a	Eng	n/a	isiX	isiX	isiX, Eng	isiX, Eng	isiX
X29	isiX	Eng, Afr	n/a	isiX	n/a	isiX	n/a	isiX	isiX	isiX	n.i.	n.i.
X30	isiX	Eng, Afr	n/a	isiX	isiX	Eng	Afr	isiX	n/a	isiX	isiX	isiX
X31	isiX	n/a	n/a	isiX	n/a	Eng	n/a	isiX	isiX	isiX	isiX	isiX

From the information provided in Table 4.3, one can summarise that five of the 31 participants (X15, X16, X19, X26 and X31) are monolingual speakers of isiXhosa. One participant (X12) is bilingual, having isiXhosa as L1 and speaking and understanding English. Nine (X1, X4, X10, X11, X20, X21, X22, X23 and X28) use isiXhosa as L1 and can understand but not speak English. Another eight (X2, X6, X7, X9, X15, X24, X29 and X30) use isiXhosa as L1 and, unlike those mentioned above, can understand but not speak both Afrikaans and English. Finally, participant X3 uses isiXhosa as L1 but also received input in Afrikaans and English. The level of proficiency of his/her Afrikaans and English was however not indicated on the background information questionnaire.

4.6 Data collection instrument: The *Receptive and Expressive Activities for Language Therapy*

The decision as to which data collection instrument to use was taken against the background of the current state of child language assessment in South Africa. From a survey by Van Dulm and Southwood (2014), it is known that there is widespread use of Afrikaans translations of English-medium language assessment instruments such as the *Test of Auditory Comprehension of Language* (Carrow-Woolfolk 1998), the *Illinois Test of Psycholinguistic Abilities* (Hammill, Mather & Roberts 2001) and an earlier version of the *Peabody Picture Vocabulary Test* (Dunn and Dunn 2007). The latter has also recently been translated into isiXhosa by a South African research team, and an early version of the *Test of Auditory Comprehension of Language* is also available in isiXhosa. These instruments could not be used as data collection instruments in this study, for several reasons: either the publisher's permission had not been obtained before translating the instrument and using and/or distributing the translation, or the translation did not take into account the linguistic differences between the target and source languages, thus raising the question as to whether the translated version still assesses that which the original version intended to assess. Most importantly, given the focus of this study, these instruments either do not assess morphosyntactic skills or do not assess LDCs specifically. Three instruments have been developed (not translated) for use with Afrikaans-speaking children, namely the *Toets vir Mondelinge Taalproduksie* ('Test for Oral Language Production', Vorster 1980), the *Afrikaanse Semantiese Taalevaluasiemedium* ('Afrikaans Semantic Language Evaluation Medium', Pretorius 1989) and the *Afrikaanse Reseptiewe Woordeskattoets* ('Afrikaans Receptive Vocabulary Test', Buitendag 1994). Because these three instruments are not

available in either English or isiXhosa, they could also not be considered for use in this study. The DELV (Seymour et al. 2005) is a dialect-neutral and culturally fair language assessment instrument available in South African English and Afrikaans (see Southwood & Van Dulm 2009; Van Dulm & Southwood 2008:302) but not in isiXhosa, and therefore it had to be eliminated as possible data collection instrument in this study. The REALt (Southwood & Van Dulm 2012a) focuses on LDCs specifically and has been published in English and Afrikaans. An isiXhosa version of the REALt has been developed and, though not yet commercially available, could be obtained from the developers. Because the REALt is available in all three study languages and because it focuses on LDCs, it was selected as data collection instrument for this study.

The REALt material was designed to be used with children from 4 to 9 years who exhibit a language delay or suffer from a language disorder. Its main aim is the provision of evidence-based and linguistically, culturally and visually suitable language therapy material for use with child speakers of Afrikaans and English. The authors however state that it can be used as an informal language assessment instrument with Afrikaans- and English-speaking children (see Southwood & Van Dulm 2012:1).⁵⁰ (The second aim of the REALt is indeed to address the dearth of culturally and linguistically appropriate standardised language assessment instruments which can be administered to South African children). This section will provide a short outline of the components of the REALt.

The REALt material consists of (i) 361 colour-based items for use as therapy material and/or informal assessment material, (ii) 140 reproducible take-home colour-in story booklets, (iii) a poster of the characters involved, and (iv) a user manual. For the purpose of the study, the manual, poster and colour-based items were used. These items are grouped according to the structures and skills they are meant to target. These include narratives and role taking, articles, binding, conjunctions, ellipsis, passive constructions, quantifiers and *wh* questions. For the purposes of this study, the booklets containing the items for articles, quantifiers,

⁵⁰ Note that, at the time of the 2012 publication, the isiXhosa version of the REALt was not yet available. The authors also state that the REALt is suitable for L2 speakers of Afrikaans and English as well as for poverty-situated communities which can profit from directed language stimulation to aid with language development (Southwood & Van Dulm 2012b:1).

binding, and passive constructions were used.⁵¹ (Examples of items are given below and in chapters 5 to 8.)

Each booklet has the same format, containing several colour pictures (shown to the child), each accompanied by text (to guide the administrator). On the text page, there are three columns. In the first, the stimulus is provided. In the second, examples of possible target and non-target responses are given. This a non-comprehensive list in the case of production items. The reaction the administrator gives to the response of the child is based on the nature of the response. Where a correct response is given, the child is praised and one moves on to the next item. Where an incorrect or non-target response is given by the child, the administrator follows up. The follow-up text is provided in column 3. There are always one or more follow-up opportunities for the various types of non-target responses. These follow-up stimuli provide a second opportunity to prompt the child for the target response (Southwood & Van Dulm 2012b:3). In this study, the follow-up if non-target option was presented in the case of the LDC entailing quantifiers, but not in the case of LDCs entailing articles, binding relations and passive constructions. (This is explained in the relevant chapters in which the data are presented and discussed.)

The target structures used in the REALt were developed from a number of sources, amongst others, literature on (i) the manifestation of specific language impairment across languages, (ii) typical language development across languages and dialects and (iii) so-called “school-language”, which differs from the language to which children are exposed at home in terms of its decontextualised nature (see also section 2.6.2) (Southwood & Van Dulm 2012b:2). Based on this literature, Southwood and Van Dulm (2012a) created several items of each item type for the targeted LDCs and had matching child-friendly pictures generated.⁵² (Several examples of comprehension and production items are provided in the relevant subsequent chapters.) The pictures and text were piloted with typically-developing English-speaking and Afrikaans-speaking children, and the findings were used to fine-tune the text

⁵¹ As stated above, data were collected on articles, binding, conjunctions, ellipsis, passive constructions, quantifiers and *wh* questions, but due to a limitation in the scope of the dissertation only articles, quantifiers, binding and the passive construction are reported on here.

⁵² According to Southwood and Van Dulm (2012b:2-3), the REALt pictures are simple enough so that children from economically deprived backgrounds can easily identify with them while children from economically privileged backgrounds still find them interesting. The families in the pictures stem from different ethnic backgrounds in order to purposefully offer a wide range of children the ability to identify with the characters. Cultural and social taboos were avoided as far as possible. This rendered culturally appropriate material for the South African context.

and pictures and to arrange the items in increasing order of apparent difficulty (Southwood and Van Dulm 2012b:5). (Specific data obtained during the pilot study for each structure type will be explored in the relevant subsequent chapters.)

The fact that (i) there were multiple items for each language construction, (ii) items were arranged in order of difficulty, from the easiest to the most difficult, and (iii) the authors ensured that the Afrikaans and English versions of each item had the same structure and were comparable in terms of their level of difficulty (Southwood & Van Dulm 2012b:4) made the material attractive for use in a study of the nature of the present one, as it allows a systematic and in-depth assessment of LDCs in two of the languages relevant to this study. Relevant parts of the REALt (specifically the booklets on quantifiers, binding and passive constructions) are also available in isiXhosa. Unlike for the Afrikaans and English versions, developmental data have not been collected with the isiXhosa version, and the items thus appear in isiXhosa in the order in which they do in the other two language versions. The table below provides an outline of the different sections of the REALt that are applicable to this study, the manner in which each LDC or booklet is structured as well as the number of items in each section of the REALt.

As indicated in the table below, certain LDCs or certain types thereof were not tested in all three languages. This was because of dissimilarity between the languages in terms of syntactic structure. For instance, (i) no article items were administered to the isiXhosa group, as isiXhosa does not make use of articles to indicate definiteness and specificity, and (ii) *daar*- 'there' passives were administered to the Afrikaans group only, as the Afrikaans *daar*-passives do not have grammatical English *there*-equivalents, and the items cannot be elicited successfully in isiXhosa (attempts result in the elicitation of locative *there* constructions).

Table 4.4. Summary of the LDC types in the REALt

LDC	Types	Subtypes	Sets	Subsets	Nr. of items	
Articles	General vs. general (<i>Afr and Eng only</i>)	General-general	Comprehension	n/a	5 items	
			Production		5 items	
		General-specific	Comprehension		5 items	
			Production		5 items	
	Part vs. whole (<i>Afr and Eng only</i>)	Part-whole	Production		5 items	
		Whole-part	Production		5 items	
				[30 items]		
Quantifiers	<i>Every</i>	n/a	Comprehension	Meaning	5 items	
			Production	Scope	5 items	
	<i>All</i>		Comprehension	Meaning	3 items	
			Production	Scope	3 items	
	<i>Some</i>		Comprehension	Meaning	5 items	
			Production	Scope	5 items	
	<i>Any</i>		Comprehension	Meaning	3 items	
			Production	Scope	3 items	
	<i>Many/more/most</i>		Comprehension	Meaning	5 items	
			Production	Scope	5 items	
<i>No /none</i>	Comprehension	Meaning	6 items			
	Production	Scope	6 items			
				[79 items]		
Constructions containing binding relations	Reflexives	<i>Self</i> -reflexives	Comprehension	n/a	4 items	
			Production		5 items	
	Reciprocals	n/a	Comprehension		3 items	
			Production		2 items	
			Comprehension		2 items	
			Production		3 items	
Possessive	n/a	Comprehension	3 items			
		Production	3 items			
				[22/25 items]		
Passive constructions	Agentive action	n/a	Comprehension	n/a	10 items)	
	Agentless action		Comprehension		10 items	
	Action passive with/out agent		Production		10 items	
			Comprehension		15 items	
	Reversible		Action		Production	5 items
			Psychological		Production	5 items
			perceptual		Production	5 items
	<i>daar</i> (<i>Afr only</i>)				Production	5 items
				[60/65 items]		
161 items (isiXhosa) / 191 items (English) / 199 items (Afrikaans)						

The user manual was used to instruct fieldworkers on the characters in the picture material as well as on how to use the material and where to take special precautions when testing each LDC. For the purpose of the study, the poster of the REALt characters was used to help the children if they became confused with the characters. The original poster was amended with the character names and is given below (Southwood & Van Dulm 2012a).⁵³

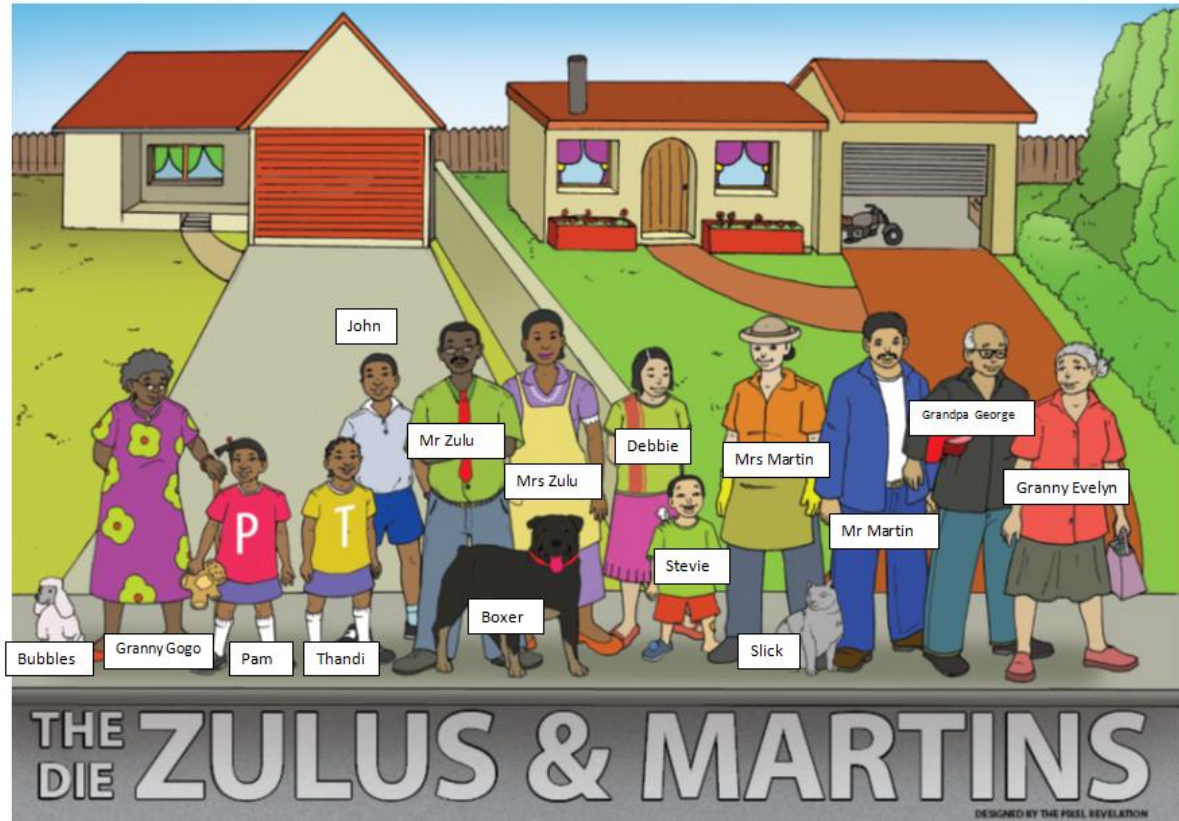


Figure 4.2. Characters of the REALt (© Southwood & Van Dulm, 2012a; reproduced with permission)

4.7 General data collection process

A team of fieldworkers assisted me in collecting the data. It took one person approximately four hours to assess one learner with the REALt. It would thus have taken a single researcher 360 hours to assess all 90 learners once, i.e., 180 days if two learners were assessed per day. Because the study is of a longitudinal nature, the testing done at the start of the year had to be repeated at the end of the year, and it would thus have taken one researcher 360 days to complete the data collection process. This would have rendered research question 1

⁵³ For a detailed description of each family and character, see Southwood and Van Dulm (2012b:2-3).

unanswerable, as too little time would have been left to observe change in language ability between the first and second assessment opportunity. By making use of 10 to 16 fieldworkers per data collection day, it was possible to test all 90 learners within a maximum of two sets of 6 weeks, one set of 6 weeks during Phase 1 (at the start of the 2013 school year) and one set during Phase 2 (at the end of 2013). These two phases are outlined below.

4.7.1 Phase 1 of data collection

In preparation for data collection, numerous factors had to be taken into account during the planning stage. Such planning involved not only the selection of schools and participants (discussed above) but also the recruitment and training of fieldworkers, discussed below.

4.7.1.1 Recruitment of fieldworkers

The fieldworkers needed for the study ideally had to possess the following capabilities:

- (i) have L1 speaker spoken proficiency in Afrikaans, English and/or isiXhosa,
- (ii) be fully literate in Afrikaans, English and/or isiXhosa (in terms of reading and writing),
- (iii) have some metalinguistic awareness in order to effectively use the assessment instrument,
- (iv) be patient and able to work well with children,
- (v) be able to work well individually and within a team,
- (vi) live in close proximity to Stellenbosch, and
- (vii) be available on every data collection day for the full duration of the two weeks of data collection at a particular school.

The recruitment of fieldworkers who are Afrikaans or English monolinguals or Afrikaans-English bilinguals was not problematic. Finding a sufficient number of isiXhosa L1 fieldworkers was, however. There are few isiXhosa-speaking students in my home department, so I had to make use of research networks to recruit L1 speakers of isiXhosa (see below). Because I have highly limited knowledge of the language, I had to depend on the judgment of others on whether the recruited fieldworkers indeed had sufficient metalinguistic skills and spoken and written proficiency. The recruitment of fieldworkers was somewhat complicated by the fact that Phase 1 occurred at the start of the university year. This meant that suitable undergraduate students were already busy with classes and could not act as

fieldworkers as they did not have the necessary free time to work on the project. This limited the pool of potential fieldworkers.

Eight Afrikaans-English bilingual postgraduate students in Linguistics and one in Psychology with a Bachelor's degree in Linguistics were initially recruited to collect data from the Afrikaans and English groups. After the first few days of data collection, it became clear that these nine researchers would be too few to complete the necessary data collection in the time limit of two weeks per school. An additional seven Afrikaans or English monolingual or Afrikaans-English bilingual postgraduates, from the Education Faculty, were then recruited to assist the original nine fieldworkers with data collection. The skills that this latter group of students learned during their studies were put to good use, as they were trained to work with children and understood the fact that a predetermined set of instructions had to be followed in assessment.

The fieldworkers who collected data from the isiXhosa group comprised isiXhosa-English bi-/multilinguals who had no training in Linguistics and no tertiary education. They had previously acted as fieldworkers on other research projects in Linguistics in the Western Cape Province and were thus recommended by colleagues at my home and other universities. Because many of the children in the English group were L1 speakers of isiXhosa with limited proficiency in English (especially during Phase 1), these fieldworkers were also part of the team which collected data from the English group.

4.7.1.2 Training of fieldworkers

A four-hour training session was held for all fieldworkers before the start of data collection. During this session, the research protocol, data collection process, item administration and response-recording procedures were explained. Fieldworkers received general information on the logistics and administrative matters associated with each data collection session. This information included a run-through of one typical data collection day as well as practical advice and information that they had to bear in mind while collecting data. Each fieldworker also received a training pack which included documents indicating what the REALt is and what it consists of, the different types of constructions that would be tested, posters of and explanations of the characters found in the assessment material, and a document outlining how to use the REALt. All fieldworkers received training on all LDCs to be assessed, but each was assigned one specific LDC on which they would collect data. (More than one

fieldworker was assigned to those LDCs with many items.) Information conveyed in the training documents was based on that in the REALt user manual.

During the first part of the training session, the training documents were read through and explained. During the second part, each fieldworker worked through the booklets containing the items on the various LDCs and the scoresheets in order to know what is expected of them. Time was allowed for asking questions. Fieldworkers then took the training packs and example scoresheets home for further familiarisation with the data collection instrument.

One training session was presented to the Afrikaans and English fieldworkers together and another to the isiXhosa-speaking fieldworkers, where an isiXhosa-English bilingual fieldworker, who had previously worked with the REALt material, could help with the training of the local isiXhosa-speaking fieldworkers.

4.7.1.3 Data collection during Phase 1

Phase 1 entailed 10 consecutive school days of data collection at each school during a six-week period in the first school term of 2013: 21 January to 1 February at the Afrikaans-medium school, 4 to 15 February at the English-medium school, and 18 February to 1 March at the isiXhosa-medium school. Data were collected from directly after school for at least two hours per afternoon. During these sessions, two fieldworkers ran an aftercare club (playing games with the learners and providing them with lunch and refreshments) in a classroom at the school while 14 other fieldworkers each worked individually with one child on one LDC. Each fieldworker had a picture book with accompanying questions and a scoresheet on which the relevant target answers were indicated. If a non-target answer was given, it had to be indicated as such on the scoresheet and the answer given by the learner had to be recorded verbatim on the scoresheet. This was done with each of the participants and for each of the constructions. If a learner gave incorrect responses to the entire first half of the items of any subsection of any LDC, the fieldworker would discontinue assessing that subsection. This was done to avoid any discomfort on the child's part. Responses to items involving long answers were also voice recorded in order to allow verification of participant responses later.

4.7.1.4 Methodological difficulties encountered during Phase 1 of data collection

Despite careful planning, several factors rendered the data collection process somewhat messy. These factors are briefly discussed below.

It was, firstly, not possible to regulate the attendance of participants. For example, 31 learners attended data collection sessions during the two-week period at the Afrikaans-medium school. Fourteen additional learners returned signed permission slips but attended none of the 10 sessions. Of the 31 attending learners, the data on seven are incomplete due to participants' absence from certain sessions due to illness or for other reasons. The situation at the other two schools was similar to that at the Afrikaans-medium school. Incomplete data sets negatively impact on the study, as data collected at the end of the Gr 1 year had to be compared to that collected at the beginning of the year if development were to be tracked. Learners without these two data points for any particular LDC thus had to be excluded from the pool of data for that LDC, lowering the participant numbers for certain LDCs.

Another contributor to incomplete data sets was the lack of efficient communication between the schools and the fieldworkers, and within the staff hierarchies at the schools. Despite the schools confirming that the set times and dates of data collection would suit them well, there were several logistical barriers to data collection taking place as planned. These included no venue being available on data collection days (despite prior confirmation of the availability of such facilities), the entire school's learners unexpectedly being sent home early, and all learners being involved in planned afterschool activities of which the fieldworkers were not informed in advance. In order to make up for such events, data collection had to be extended on other days. Due to the nature of the study and subsequent appointments at other schools, the research team was able to spend only two weeks at any one school, so adding extra data collection days at a school was not possible, which in turn had cost implications: fieldworkers (who had to be paid for their time even when no data could be collected) had to be repaid to collect the data, the transport arranged for the participants had to be rescheduled, and perishable refreshments which could not be kept for the next day had to be reordered.

The data collection process was also complicated by language barriers between the fieldworkers and the participants and their parents. As mentioned above, isiXhosa-speaking fieldworkers were employed to collect the data at the isiXhosa-medium school. The learners at the English-medium school were however initially assumed to be sufficiently proficient in English to allow data collection to be done by non-isiXhosa speakers. In reality, some of the children in the English-medium school had very limited proficiency in English (as did their parents), and this caused communication difficulties, especially when children whose parents did not sign permission slips and for whom no contact details were available attended the

data collection sessions, after which they had to be transported home (to unknown addresses). These issues were resolved by the employment of an interpreter after the first day of data collection for the duration of the data collection period at the English-medium school, which was an unbudgeted expense, and asking isiXhosa-speaking fieldworkers to assist with data collection not only at the isiXhosa-medium school but also at the English-medium school.

A further problem was communication breakdown amongst fieldworkers and also between me and the fieldworkers. During data collection from the isiXhosa group, it became clear that the fieldworkers did not always agree with the register of or the vocabulary choice in the isiXhosa translation of the items. These assistants were of the opinion that the translator (despite being briefed carefully about the purpose of the translated material and having experience in working with texts intended for use with children) used too formal a register in, specifically, the formulation of questions and stories. Some assistants therefore paraphrased some of the items, despite having been instructed not to do so. As more than one assistant sometimes collected data on the same LDC, this led to somewhat different versions of the same item being presented to different participants. Furthermore, fieldworkers at times failed to indicate on the given lists which children had been assessed for which LDC, resulting in some participants being assessed twice for one LDC. Where scoresheets were not date-marked, this led to unusable data, as the scoring on the two scoresheets for one participant invariably differed somewhat and it was not possible to ascertain which responses were collected first. Whereas unusable data are of course undesirable, the participants enjoyed the assessment tasks and were glad for the opportunity to be “over-assessed”.

Other instances of noncompliance by the fieldworkers affected the data collection process. Despite the workshop that was held for all the fieldworkers, it later became apparent that some fieldworkers had not fully understood how to administer certain item types and how to record participants’ responses, and had not asked for clarification. In some cases, items for a particular LDC were administered incorrectly to such an extent that reassessment would still have been possible without affecting the participants’ responses. Unfortunately, this was not always possible, as some fieldworkers had explicitly taught the participants the correct responses during their interactions. This once again negatively affected the sample size for particular LDCs, as there were no children with consenting parents available to replace these participants. Such noncompliance increased the time it took to collect the data and thus also caused the budget for research assistance to be exceeded. That said, the participants probably

benefitted from the fieldworkers' actions, i.e., by receiving instruction on and many opportunities to practise a certain LDC.

Finally, despite clear written instructions and written example responses appearing on the scoresheets, some response recording was done inconsistently and ambiguously, rendering responses to certain items unusable. Each fieldworker was allocated (a) specific LDC(s) to assess, in order to limit the number of raters per LDC and thus maximise consistency in item presentation and response recording. However, fieldworkers would at times swap LDCs without informing me, resulting in a fieldworker administering items and recording responses for an LDC for which s/he had not received specialised training. Because of the number of fieldworkers working per data collection session (usually 14 at a time), and the number of children attending the sessions (up to 31 per session), I at times remained unaware of the abovementioned practice until I inspected the scoresheets after completion of a particular data collection session. Whereas on-site reinstruction, retraining and problem-solving was employed as far as possible, the abovementioned instances did impact negatively on the volume and quality of the usable data, especially of those collected at the isiXhosa-medium school.

4.7.2 Phase 2 of data collection

4.7.2.1 Recruitment of fieldworkers

The same fieldworker recruitment criteria for Phase 1 were applicable in Phase 2. Fieldworkers who worked well during Phase 1 and were available to assist again during Phase 2 were re-recruited for Phase 2. Those who were difficult to work with in Phase 1 were not re-recruited. The decision to do so eliminated many of the interpersonal and research team problems discussed in section 4.7.1.4 above.

Due to final university examinations taking place around the time of Phase 2, eight of the postgraduate students who assisted during Phase 1 were not available during Phase 2. Three final-year undergraduate students in Linguistics as well as two other undergraduates studying towards a degree in social work were thus recruited to collect data at the Afrikaans- and English-medium schools. Ten students studying for postgraduate diplomas in Education were also recruited to work during the Afrikaans and English data collection sessions.

For isiXhosa data collection, three of the fieldworkers who collected data during Phase 1 were re-recruited. With the aid of these fieldworkers from Phase 1, new fieldworkers who were suitable for the research project were recruited. Note that all new fieldworkers were trained before data collection commenced.

4.7.2.2 Training of fieldworkers

The exact training workshop which was presented for Phase 1 was presented for Phase 2, where the difficulties encountered in Phase 1 were incorporated into the second training session so that the fieldworkers would be aware not only of what they had to do but also what they should avoid doing. Only newly recruited fieldworkers underwent this training. Those who assisted during Phase 1 were briefed on practices to avoid and improve on before the data collection of Phase 2 commenced.

4.7.2.3 Data collection during Phase 2

The REALt was employed to re-assess the 90 Gr 1 learners (27 Afrikaans-, 31 English- and 32 isiXhosa learners) referred to in Phase 1 above, at the end (i.e., during the fourth term) of 2013. The process of data collection followed in Phase 1 was duplicated during Phase 2, at the following times: 8 to 18 October at the Afrikaans-medium school, 21 October to 1 November at the English-medium school, and 4 to 15 November at the isiXhosa-medium school.

4.7.2.4 Methodological difficulties encountered during Phase 2 of data collection

In general, the methodological difficulties experienced in Phase 1 could be eliminated to a great extent in Phase 2. However, certain difficulties remained as these are part of the context in which the study was conducted.

Participant participation improved in Phase 2, as those participants who regularly took part in Phase 1 also regularly took part in Phase 2. These children knew what the activities would entail and looked forward to taking part in them again. Those participants who were irregular attenders in Phase 1 and for whom there was thus no complete Phase 1 data set were not reassessed in Phase 2.

In Phase 2, communication with the schools improved, as did the communication with the fieldworkers. Those fieldworkers who were part of Phase 1 had a better understanding of what the research in general and the data collection in particular entailed, and the staff and teachers at the various schools also knew and understood the parameters of the study better.

Lastly, the scoresheets were amended to include the date on which each learner was assessed as well as provide the name of the fieldworker who did the assessment. If there were thus children who were assessed twice, the date on the scoresheet would indicate which version was the first version, and this version would then be used whereas the other would be discarded.

One difficulty which remained in Phase 2 was that fieldworkers did not follow the instructions as they should have. There were cases where fieldworkers did not write down the non-target response (as was required) but only indicated that the response was a non-target one. It could thus not be verified whether the response given was indeed a non-target response and, if so, which type of non-target response it was. During error analysis (see section 4.8), these responses could thus also not be coded. In cases where the fieldworkers indicated a response as being non-target and wrote down the response verbatim, the interpretation of the fieldworker could be checked, and if there was an error in the item interpretation on the side of the fieldworker, this could be corrected during the coding and analysis of the data.

4.8 Data scoring and analysis

Before explaining how each task for each LDC was scored, I give an exposition of the tasks involved. Each LDC investigated in this dissertation is made up of varying subtypes and subsets which may create confusion for the reader. In order to allow the reader to follow the analysis of results for each LDC better, I provide the following chart that can be used as a reference. In each chapter in which the results are discussed, a figure with the specific details for the LDC in question is provided, as the details of every subtype and subset could not be provided in the chart below.

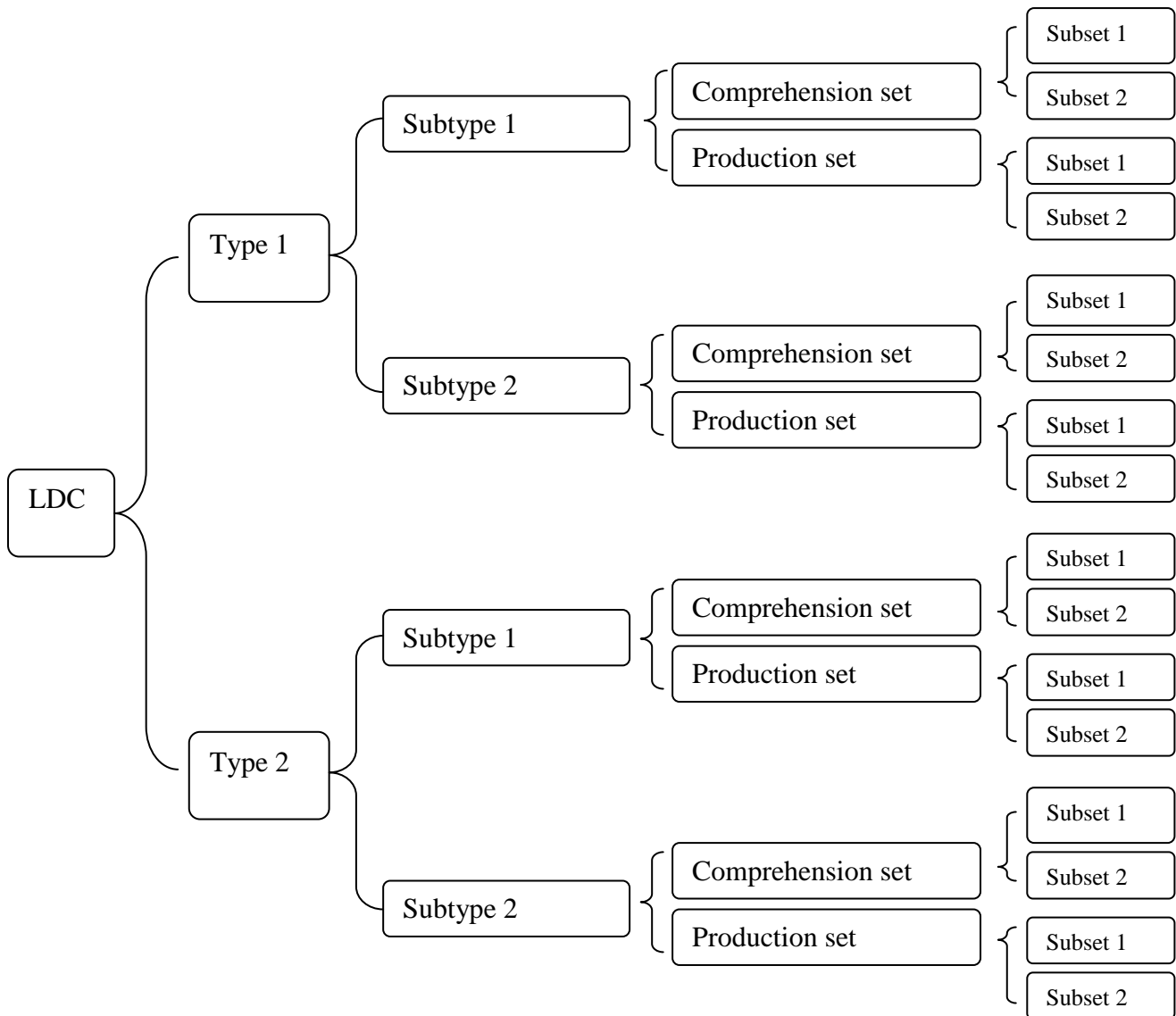


Figure 4.3. The general template for the layout per construction in this dissertation

Responses to each item were transferred from the paper versions of the scoresheets to Microsoft Office Excel files, one file for each LDC. Because the response types differed – in some cases, participants could give either a correct, an incorrect or no response, whereas in other cases, it was also possible to give a variant of the targeted response or a paraphrased alternative – the coding and scoring differed for each LDC. No set scoring method was devised and then applied to the data, but rather the data informed the type of scoring which occurred depending on the construction in question. In order not to tax the memory of the reader unnecessarily, the coding and scoring of each LDC will be discussed in the chapter in which the data for that LDC are presented.

Note, however, that mastery of the abovementioned constructions is not necessarily absolute, but rather lies on a continuum of subdivisions within each construction. The subdivisions found, for example, in the passive constructions are indicative of this continuum. Passive constructions include agentive and agentless action passives of which present progressive constructions and past tense constructions form part. Reversible passives are a third type in which action passives, perceptual passives, and psychological passives are included. It is possible that a child will be able to comprehend or produce agentive passives but not agentless passives. Data scoring was fine enough to capture these inter-structure variations.

During the analysis of the data, the scores obtained during Phase 1 were compared with those obtained during Phase 2, for each LOLT group separately. This comparison was made firstly by providing an overview of the descriptive statistics. These statistics were calculated separately for comprehension and production of each LDC, in the following manners: (i) the percentage of responses correct for each subtype per learner was calculated, (ii) the average of these percentages for each subtype per learner was calculated, and (iii) the average percentage off all subtypes was then calculated to provide an average percentage correct for the comprehension and production together of each construction. The ceiling for full acquisition (mastery) of a LDC was set at 90%. Next, the Wilcoxon Matched Pairs Test was done between Phase 1 and 2 for each LOLT group where significant difference (indicated in bold in the relevant tables) was determined to be present based on the p-value ($p < 0.05$ was taken as statistically significant). Lastly, the direction of significance (whether the results were better for Phase 1 or Phase 2) was determined by means of inspecting Box and Whiskers plots. In chapters where error analysis was possible, the data were analysed according to crosstabulation frequency results based on the average percentage of responses per response type for all of the items in a subtype and indicated with corresponding tables and pie charts.

The English and isiXhosa groups' data were also compared to each other, in order to determine which LDCs were problematic for each group at the beginning of Gr 1 and at the end of Gr 1 (see research question 2), specifically to determine which LDCs *remained* problematic for each LOLT group at the end of Gr 1. This was done by means of the Mann-Whitney U Test (with continuity correction), where English Phase 1 was compared to isiXhosa Phase 1 in one test and English Phase 2 was compared to isiXhosa Phase 2 in

another. Here, the direction of significance was derived from Box plot indications. The programme used to run all the statistics was Statistica 12.

4.9 Conclusion

This chapter outlined the research design and methodology followed in the study where the focus fell on (i) the methods by which participating schools and participating learners were selected, (ii) participant information obtained from language background questionnaires for the Afrikaans, English and isiXhosa participant groups, respectively, and (iii) the data collection and analysis procedures.

This chapter also explained how action research provided a framework for the methodology of the study, with the methodological difficulties encountered during the study also being discussed. It became clear from these methodological challenges that the context described in chapters 1 to 3 not only affects the lives and the language and literacy development of the participants of the study but also the manner in which the study was set up and how the data were collected. Lastly, these challenges also affect the results obtained during the study.

The following four chapters will provide overviews of the LDCs in terms of the relevant properties of each LDC, the development of the specific LDC in child language, how the LDC is presented in each language (Afrikaans, English and isiXhosa) and how it is assessed by the REALt. The data obtained for each LDC will also be presented and analysed, and the results for that LDC will be discussed.

Chapter 5

Articles

5.1 Introduction

Despite the fact that articles can be seen as marginal surface markers which are non-essential in some languages (such as Russian and American Sign Language; see Karmilloff-Smith 1979:22), articles fulfil important functions in language. These functions include marking specific and/or non-specific reference both (i) extralinguistically (in that there is a universal expression of determinedness) and/or (ii) by intralinguistic cross-reference, such as in the case of the use of anaphoric expressions. This chapter firstly briefly describes the relevant properties of articles and secondly explores the literature available on L1 and L2 acquisition of articles. Thirdly, the chapter provides a description of how articles are used in Afrikaans and English (and not used in isiXhosa) for intralinguistic and extralinguistic reference, and summarises the rules applicable to the use of articles and the exceptions to these rules. The chapter then moves on to the empirical part of the study, first describing how the comprehension and production of articles are tested by the REALt, and then explaining how the raw data on articles collected for the study were scored and analysed. Finally, the data analysis and the chapter conclusion are presented.

5.2 Relevant properties of articles

Articles, as defined by Richards and Schmidt (2002:32), are function words which are used in conjunction with a noun, indicating whether the noun refers to something definite or indefinite as well as to something specific or general. According to Kramsy's (1972) cross-linguistic typological classification entailing approximately 300 languages, there are seven types of languages based on the main surface devices they use for expressing the category of determinedness versus indeterminedness⁵⁴ (Karmilloff-Smith 1979:22,23):

⁵⁴ Determinedness / indeterminedness refers to the manner in which one can or cannot establish how reference is given to a noun or NP in a language. This is contrasted with the concept of specific vs. general reference which shows the kind of reference a noun or NP may have and refers to the manner in which articles (definite and indefinite) are used.

- (i) languages in which the category is expressed by independent words,
- (ii) languages expressing one member of the category with an independent word and the other with an enclitic or proclitic,⁵⁵
- (iii) languages in which both members of the category are expressed by clitics,
- (iv) languages in which the category of determinedness versus indeterminedness is inherent in the noun itself,
- (v) languages in which the category is expressed by flexion of nouns, adjectives, etc.,
- (vi) languages expressing the distinction by prosodic means (stress or intonation), and
- (vii) languages which use word order to express the category.

Articles (a type of “independent word” referred to in (i) above) have been studied from a formal point of view since at least 1957 (see Chomsky 1957; Dubois & Dubois-Charlier 1970; Gleason 1961; Spangler 1975; Thomas 1965, amongst others). From the generative grammar perspective, words like *a(n)*,⁵⁶ *the*, and *that* determine that a noun construction will follow. Initially, these categories fell under what was referred to as the “Noun Determiner”, which was later shortened to “Determiner” and “DET”. A noun phrase (NP) was thus structured as follows: NP → DET + N (= Noun Phrase → Determiner + Noun). In subsequent versions of generative grammar, DET is seen as the head of a determiner phrase (DP), thus: DP → DET + NP.

According to Thomas (1965, in Karmilloff-Smith 1979:27), there are three subclasses of determiners, namely predeterminers, determiners, and postdeterminers. Determiners are categorised as articles (e.g., *a girl*, *the girl*), demonstratives (e.g., *that girl*, *those girls*) and genitives (e.g., *his book*, *their books*). By contrast, Spangler (see Karmilloff-Smith 1979:28) outlines the DET category as containing diverse and multifunctional morphemes, with articles listed as one of eight determiner categories:

- (i) Articles, functioning to limit the number or make definite: *a/an*, *the*.
- (ii) Demonstratives, functioning to point out locatively: *this*, *that*, *these*, *those*.
- (iii) Cardinal numbers, naming counted quantities: *one*, *two*, *ten*.

⁵⁵ A clitic is a functional morpheme that carries meaning but which cannot stand alone and has to be bound to another morpheme for the meaning of the clitic to be apparent. Proclitics and enclitics are two types of clitics which appear before their host and after their host, respectively (and can be compared to prefixes and suffixes).

⁵⁶ Of course, the English words *a* and *an* are not two separate indefinite determiners but instead two different realisations of a single indefinite determiner, with the phonetic realisation of the determiner being determined solely by the initial sound of the next word: if the initial sound of the next word is a vowel, the determiner is realised as *an*, if not, then it is realised as *a*.

- (iv) Ordinal numbers, naming the relation of items in a numerical sequence: *first*, *second*.
- (v) Quantities, stating definite or indefinite measures, frequently (but not necessarily) joined to a cardinal number or article: *several*, *a few*, *three quarts*.
- (vi) Intensifiers, limiting or emphasising a quantity or other word or phrase: *only* (*ten*), *just* (*a dozen*).
- (vii) Possessive pronouns, replacing a noun and showing possession: *my* *book*.
- (viii) Possessive nouns, showing possession: *John's* *car*.

All eight categories of determiners feature in Afrikaans and English, whereas isiXhosa only has demonstratives (Du Plessis & Visser 1992:280). For the purpose of this study, the focus is however on the first category, articles, only.

5.3 The development of articles in child language

The literature available on the development of comprehension and production of articles among typically-developing L1 children is limited. Studies done by Maratsos (1976) and Warden (1973, 1976) on the acquisition of determiners focused on definite and indefinite articles, excluding other types of determiners. These studies as well as that of Bresson, Bouvier, Damequin, Depreux, Hardy and Platone (1970) will be reviewed below, followed by more recent studies.

Bresson et al. (1970) studied French-speaking 4- and 5-year-olds to determine the difference between (i) using definite and indefinite articles for naming objects, (ii) making anaphoric reference to the objects named, and (iii) making a second anaphoric reference to all or part of the collection (Karmiloff-Smith 1979:34). Bresson et al. (1970 in Karmiloff-Smith 1979:37) found that 4- and 5-year-olds did not have any difficulty naming objects, and that they were successful in using definite articles to refer to one person or a whole group. The use of indefinite articles to name a subclass of these groups, however, proved more difficult, where the participants would continue to use the definite article rather than the required indefinite article (Karmiloff-Smith 1979:38). Results for single indefinite reference were slightly better than for plural indefinite reference, and overall it was concluded that 4- to 5-year-olds predominantly use definite referring expressions.

Maratsos (1976) studied the comprehension and production of articles by English-speaking 2- and 4-year-olds, making use of tasks such as storytelling, acting out with dolls, as well as imitation and expansion of the experimenter's story with a missing determiner. The tasks were designed to narrow the child's responses down to only those including the articles *the* and *a* as specific and general referential devices. Even though methodological problems in the elicitation of the articles still arose – such as children pointing rather than answering verbally (see Karmiloff-Smith 1979:38,39) – Maratsos (1976) could draw conclusions from these and other experimental tasks. The first conclusion is that competence is established very early as concerns specific and non-specific reference. Secondly, while children produce indefinite NPs to refer generically or to refer to any member of a class, minimally contrastive situations (where a certain referent had been established for them) also lead to the production of definite NPs. There is thus a period, particularly before the age of 4 years, where definite *the* is overused by children in contexts which require the use of indefinite *a* (Zdorenko & Paradis 2007:483). Brown (1973), however, along with Maratsos (1976) and Schaeffer and Matthewson (2005), adds that the child does not factor in the listener's knowledge in terms of the pragmatics associated with the specific reference but merely the syntactic and semantic knowledge of the speaker. (The study entailed grouping two articles according to the correct use in context rather than taking into account the difference between definite and indefinite articles.) This is despite the fact that the child has early productive control over article contrasts (i.e., over the specific/non-specific distinction) (Karmiloff-Smith 1979:41).

Warden (1973, 1976) studied English-speaking children's ability to incorporate definite and indefinite articles in their expressions of reference. His participants included 3- to 9-year-olds, adults in some experiments as well as 4-year-olds in other (separate) experiments. He studied the use of the indefinite article to introduce a new referent to the context, as well as the use of the definite article to refer to an already identified referent (so-called anaphoric definite reference) (Karmiloff-Smith 1979:39). Two important results from the Warden studies contribute to our knowledge about articles in child language acquisition: Firstly, children tend to use the definite reference, whether the referent of their expression has been identified or not. It is only at the age of 9 that children can reliably identify their referents for their listener (Karmiloff-Smith 1979:40). Secondly, despite the fact that only 9-year-olds could reliably identify their referents, almost every child also used some indefinite expressions of identification. Accordingly, Warden argues that the context in which children hear these expressions does not provide the ideal environment to discriminate the apparent

rules for article usage. There are thus indications of inadequate learning of a rule of article usage, because children between the ages of 5 and 9 years inconsistently introduce referents with indefinite expressions (Karmiloff-Smith 1979:40).

More recently, Abu-Akel, Bailey and Thum (2004) found that, in spontaneous speech, typically-developing English-speaking children begin to use articles at the start of the two-word stage (thus around 18 to 24 months) where indefinite *a* is used rather than definite *the* in the early stages (up to about 36 months). The opposite is generally found in elicited data, as was the case in the studies mentioned above (see Karmiloff-Smith 1985). Abu-Akel, Bailey and Thum (2004) however found, in accordance with Brown (1973), Maratsos (1976), and Schaeffer and Matthewson (2005), that the omission of articles from obligatory syntactic positions is common before 36 months of age, after which it is uncommon.

Southwood and Van Dulm (2012b:13) tested 57 English-speaking 4- to 8-year-olds and 31 Afrikaans-speaking 4- to 9-year-olds with the REALt. These children were all typically developing and middle class. They found that the comprehension of general vs. specific articles was largely successful among the participants from both language groups, with almost a 100% correct response to follow-up⁵⁷ across all of the age groups (with the possible exception of the Afrikaans-speaking 4-year-olds). For the production of articles, the study tested part-whole relationships and general-specific articles (see section 5.4.1.6 for an exposition of these two types of relationships). For the part-whole article relationships, all age and both language groups were successful at producing the target articles. The results for general-specific articles indicated that the items assessing this distinction were to some extent more challenging than the items assessing part-whole relationships. It was found that the target responses to the general-specific items were only achieved after incorrect responses were followed up. Southwood and Van Dulm (2012b:14) attribute this to the relatively open nature of the production task, where a range of responses could be valid for the task. Conclusions from this study include that the definite (specific) article *the* (and its Afrikaans counterpart *die*) proved to be decidedly more taxing for both the English- and Afrikaans-speaking participants for all age groups in comparison to indefinite article *a* (and its Afrikaans counterpart *'n*), a result that concurs, to an extent, with that of Abu-Akel et al. (2004) that *a* is preferred over *the* by very young children. (Southwood & Van Dulm

⁵⁷ Recall that the REALt allows for the follow-up of non-target responses; see section 6 of the previous chapter.

2012b:15) also found that non-target responses such as the use of bare nouns, pronoun combinations, quantifier combinations, adjective-noun combinations and no responses instead of the use of targeted articles were more common than completely incorrect responses (such as the use of the incorrect article, for example, indefinite *a bike* instead of definite *the bike*, or definite *the mop* instead of indefinite *a mop*).

Zdorenko and Paradis (2007:483) point out that, generally, the same kinds of errors made during L1 acquisition of English (as described for the studies of Brown (1973), Maratsos (1976), Schaeffer and Matthewson (2005) and Southwood and Van Dulm (2012b) above, amongst others) have been documented for L2 learners of English: Huebner (1985), Ionin and Wexler (2003), Ionin, Ko and Wexler (2004) as well as Lu (2001) have found that L2 learners use bare nouns in inappropriate contexts, as well as substitute or overuse definite article *the* in contexts where indefinite article *a* is required (Zdorenko & Paradis 2007:483). L2 learners of English also consistently have trouble in the use of articles until late stages of acquisition, and often do not ever attain a native-like level of performance. It has also been shown that the types of errors made with reference to articles have been consistent in the sense that (i) different L2 learners struggle with the same types of article usage (such as the use of bare nouns or the overuse/substitution of definite articles) and (ii) these same types of article usage are problematic for L1 learners. Zdorenko and Paradis (2007:483) thus point out that “while there is agreement that all English language learners have difficulty in using articles (at least initially), there is no consensus as to what the reasons for this difficulty are, and whether some reasons could be the same in L1 and L2 acquisition”.

Most of the studies on the L2 acquisition of English have been performed with adult learners and/or with L1 speakers of languages that do not contain articles. There is thus a dearth of research on the acquisition of articles by child L2 learners (Zdorenko & Paradis 2007:483). Zdorenko and Paradis (2007:483) studied the use of articles in 16 L2 children, from a variety of L1s, with the mean age of 5;4 years, by means of elicited narratives. The children were divided into two groups according to whether their L1 makes use of articles ([+article]) or not ([-article]). The study was aimed at (i) determining if the initial state in child L2 acquisition shows L1 transfer in terms of article use, (ii) determining whether articles are acquired in the same sequence regardless of whether the L1 is a [+ article] or [- article] language, and (iii) comparing the rate of article overuse in the two groups. They reported that, for both the groups, the accuracy rates of the use of definite article *the* in obligatory contexts was

consistently elevated in comparison to the use of indefinite article *a* in obligatory contexts. The learners thus achieve more accuracy with definite than with indefinite article usage. It was also found that L1 background did not have a significant influence on the accuracy of article choices (Zdorenko & Paradis 2007:487). The types of errors found by Zdorenko and Paradis (2007:488-489) include (i) the overuse of definite article *the* for both [+article] and [-article] groups; (ii) the use of null articles, specifically by the [-article] group, in both definite and indefinite contexts; and (iii) the elimination of null articles, even for the [-article group] after the age of 6;4 years. The types of errors found and the ages at which these errors were eliminated indicate that these errors are more frequent during the early stages of English L2 acquisition (between the ages of 5;4 and 6;4 and after 9 to 22 months of exposure) (Zdorenko & Paradis 2007:485).

5.4 How articles present themselves in English, Afrikaans and isiXhosa⁵⁸

isiXhosa does not have independent words which correspond to definite or indefinite articles. In fact, it does not make use of any of the seven main types of surface devices that languages are said to use for expressing the category of determinedness versus indeterminedness (see Kramsy's 1972 categorisation in section 5.2). In order to interpret an expression / a phrase as definite or indefinite in isiXhosa, the listener has to refer to the context and make use of pragmatics. In isiXhosa, the context and the preceding discourse play an important role in determining (in)definiteness. An example taken from Southwood and Van Dulm (2012b:10) illustrates this lack of articles in isiXhosa.

- 5.1. *amantombazana athanda amankwenkwe*
ama-ntombazana a-thand-a ama-nkwenkwe
 NC.6-girls SM.6-like-PRES.FV NC.6-boys
 '(The) girls like (the) boys'

Directly translated, example (5.1) means 'girls like boys'. However, nothing in this utterance indicates whether reference is being made to specific girls who like specific boys or to girls in general who like boys in general (or subsequent combinations of girls and boys). This will

⁵⁸ The general order, in which the languages are discussed in the dissertation, is alphabetical, with the exception of the sections, in which it is outlined how each LDC presents itself in each language (generally section 4 of each chapter). In each section 4 the languages are discussed in the order, which reflects the quantity of information available on the linguistic analysis of the construction in question.

only be clear from the context and/or preceding discourse. isiXhosa thus uses pragmatics to indicate definite or indefinite reference (see Kramsy 1972 in section 5.2 above).

By contrast, Afrikaans and English both use independent words for expressing (in)determinedness, the first surface structure mentioned by Kramsy (1972) (see section 5.2). The two types of articles used in Afrikaans and English to express determinedness versus indeterminedness are definite articles (*die/the*) and indefinite articles (*'n/a(n)*), respectively. These are discussed below.

5.4.1 Definite articles in English and Afrikaans

According to Greenbaum (1996:164), “the definite article is used when a speaker (or writer) assumes that the hearer (or reader) can identify the reference of a noun phrase”. The concept of definiteness is expressed in English where the reference of the NP is clear. The use of the article *the* in examples (5.2) and (5.3) below refers to the concept of a specific girl or specific girls and a specific boy or specific boys. The manner in which definite article *die* is used in Afrikaans is the same as that of *the* in English. The equivalents of examples (5.2) and (5.3) are given in examples (5.4) and (5.5).

5.2. *The girl likes the boy*

5.3. *The girls like the boys*

5.4. *Die meisie hou van die seun*
The girl likes of the boy
'The girl likes the boy'

5.5. *Die meisies hou van die seuns*
The girls like of the boys
'The girls like the boys'

5.4.2 Indefinite articles in English and Afrikaans

Greenbaum (1996:165) states that when indefinite articles are used, “an assumption [about the reference of a NP – JHN] cannot be made”. Indefiniteness in English is indicated by the use of indefinite article *a* as illustrated in *A girl likes a boy / an apple*. Here, *a* makes reference to any girl and any boy in general and *an* makes reference to any apple. The use of

an indefinite article 'n in Afrikaans (which is the same as the indefinite *a(n)* in English) is illustrated in example (5.6).

- 5.6. *'n Meisie hou van 'n seun*
 A girl likes of a boy
 'A girl likes a boy'

5.4.3 Exceptions to the rules for articles: Afrikaans versus English

5.4.3.1 Exceptions related to the use of definite articles

Due to the fact that Afrikaans and English each only have two articles which have a rather simple pattern of use, in the sense that grammatical gender and case are not overtly indicated on the article (in contrast to languages such as German), one would assume that English- and Afrikaans-speaking children would easily understand and use articles correctly at quite an early age. This is however not necessarily the case, as there are multiple exceptions to the general rules regarding when to use the definite article and when to use the indefinite article. One of these exceptions is that Afrikaans requires the insertion of the definite article in certain adverbial and idiomatic expressions, whereas English does not. The examples below illustrate this exception (Donaldson 1993:56-57).

- 5.7. *Hulle is by die huis / in die tronk / in die tuin / in die geheim verlief*
 They are at the house / in the prison / in the garden / in the secret in love
 'They are at home' / in prison / in bed / secretly in love'
- 5.8. *Aan die lig kom*
 On the light come
 'Come to light'

The use of definite articles in Afrikaans and English also differs in terms of coupling with abstract nouns. In Afrikaans, but not in English, the definite article is used before an abstract noun, as is indicated in the example below (Donaldson 1993:58).

- 5.9. *Ek geniet die lewe / die natuur*
 I enjoy the life / the nature
 'I enjoy life / nature'

Other instances in Afrikaans where the use of the definite article differs from that of English include the use of a definite article with

- (i) nominalised infinitives; *die voer van diere is verbode* ‘feeding the animals is prohibited’
- (ii) the names of the seasons and some towns and countries, e.g., *hy is gebore in die somer / in die Paarl / in die Soedan* ‘he was born in summer / in Paarl / in Sudan’
- (iii) zodiac signs, e.g., *die Maagd is die sesde teken van die diereriem* ‘Virgo is the sixth sign of the zodiac’
- (iv) the use with *all* (*heel* in Afrikaans), *half of* and *most of*; e.g., *die helfte van die kinders* ‘half of the children’, *die meeste van die kinders* ‘most of the children’.

Definite articles are also sometimes omitted in Afrikaans in constructions in which they are required in English. The omission of definite articles in Afrikaans occurs, amongst many others, in certain adverbial expressions of place (e.g., *aan ___ tafel* ‘at the table’) and with the postposition *toe* ‘to’ (e.g., *ek gaan ___ dokter toe* ‘I am going to the doctor’) (see Donaldson 1993:56-64).

5.4.3.2 Exceptions related to the use of indefinite articles

Unlike the case of the inclusion of the definite article, there are no idioms in Afrikaans which require the inclusion of an indefinite article where none is required in English. The absence of indefinite articles in Afrikaans where these are required in comparable English constructions occurs in a number of instances, for example, in certain prepositional phrases (e.g., *as ___ gevolg van* ‘as a result of’) (see Donaldson 1993:64-68).

5.4.3.3 Articles and the contrasts for noun phrase reference

Despite the fact that only two types of articles are used in Afrikaans and English to refer to entities in the real world, Greenbaum (1996:243) identifies three sets of contrasts for NP reference, namely (i) definite versus indefinite, (ii) specific versus non-specific (general), and (iii) generic versus non-generic. The REALt items only include contrasts (i) and (ii) (definite versus non-definite and specific versus general), thus only these two distinctions will be discussed here. In the case of definite versus indefinite, one main rule applies, which is that the use of a definite or indefinite article is dependent on the identification of the referent of a NP. In (5.10), for example, reference is made to a book.

- 5.10. *I want to buy a book about flowers. The book has wonderful illustrations and helpful hints.*

In the first sentence of this example, the referent of the book is unknown or indefinite, and thus an indefinite article is used. However, in the second sentence, a definite article is used because the second mention refers back to the first mention. The reference to the book is thus no longer indefinite, as the book was already mentioned and now the article *the* is used to indicate that reference is being made to a specific book.

The second set of contrasts, specific versus general, occurs in conjunction with the distinction of definite versus indefinite. When reference is made in terms of specific or general references, the use of definite or indefinite articles, as mentioned above, is incorporated. Accordingly Rule 1 states that *a* refers to any object in a series whereas *the* refers to a specific object, namely the object which was previously mentioned. Roeper (2007:69) summarises the contrast between definite and non-definite as Rule 1a, which states, “General *a* becomes specific *the* once the item has been introduced.”

However, this rule does not apply in all cases. A NP has specific reference when it, for example, refers to a particular person, place or thing. Thus, in example (5.11), specific reference is made by means of a definite article despite not having first used an indefinite article.

- 5.11. *Lucy was tired and decided to sit on the couch and just listen to the radio.*

In this case, there is no need to state that there was a sitting room with a couch and a radio in it. The semantic and pragmatic rules applied by means of linguistic and situational reference, respectively, thus also play a role in the contrast between specific and non-specific reference (Quirk, Greenbaum, Leech & Svartvik 1992:154,155).

There are also contexts in which general *a* can follow a previously introduced item, if the reference is made to another separate object. Rule 1b states that general *a* (object B) can also follow a previously introduced item (object A) when objects A and B have different references. There are thus two sets of references for two separate objects, as illustrated in example (5.12) below.

5.12. *Lucy ordered a book (object A), and a book (object B) has just arrived.*

Thus, there is a difference between the reference to (i) one object which moves from general to specific in Rule 1a (general-specific) and (ii) two separate references to two distinct objects in Rule 1b (general-general).

A second exception to Rule 1 involves the fact that some definite articles may appear before they have been introduced by an indefinite article. In example (5.13), the sentence is grammatical because the item following the definite article (*brakes*) is part of an item that was previously introduced with an indefinite article (*a bicycle*).

5.13. *If you are on a bicycle and want to stop, you must pull the brakes hard.*

Roeper (2007:75,76) subsequently identifies a second rule (Rule 2) which reads, “If an item is part of a larger whole, specific *the* is used for the item once general *a* has been used to introduce the whole.” Roeper (2007:75) indicates that despite the fact that the part-whole relation seems more complex than simply referring back to the whole object, the process of acquiring it may be much easier than the rule itself. By looking at the distinction between general-specific and part-whole, it seems that some children indicate knowledge of the use of definite article *the* in the part-whole distinction more readily than knowledge of the use of *the* in the case of the general vs. specific relationship. Ultimately, this distinction between the general-specific and part-whole relations shows how the acquisition path may not simply go from simple to complex, since in the general vs. specific relationship *a* introduces or creates the need for the use of *the*, while in the part-whole relationship *the* is often used without the prior use of *a*.

Lastly, despite the fact that articles are defined as function words used in conjunction with a noun, noun (phrase)s can also occur on their own, i.e., with no article or with a zero article. According to Greenbaum (1996:474), zero articles have been hypothesised for plural nouns (e.g., *boys*) and for non-count nouns (e.g., *sugar*). This distinction is important to bear in mind, as the participants in the present study at times used plural and non-count nouns as responses instead of the targeted NPs containing articles. This will be discussed in the results section on article production in this chapter (see section 5.7).

Roeper (2007:70) states that the abstract intricacies associated with article comprehension and production include “a mental transformation [... in which – JHN] language expresses a major mental shift with tiny words. A child may have the concepts, but when learning to speak and understand, he must connect them to the tiny indicator words too”. Although English and Afrikaans thus each has a small set of articles, certain constructions containing these “tiny indicator words” are classified as LDCs, because of the fact that children must make this “major mental shift” (i.e., they need to acquire abovementioned Rules 1 and 2) before their use of articles can be adult-like.

5.5 Articles in the REALt: General information

The REALt contains items that target the comprehension and production of articles, and that assess two different article types: the general vs. general type has a comprehension and production set while the part vs. whole type only has a comprehension set.⁵⁹ Each type, in turn, has two subtypes, as outlined in the table below.

Table 5.1. Summary of article types, subtypes and sets

Types	Subtypes	Sets	Nr. of items
General vs. general (<i>Afrikaans and English only</i>)	General-general	Comprehension	5 items
		Production	5 items
	General-specific	Comprehension	5 items
		Production	5 items
Part vs. whole (<i>Afrikaans and English only</i>)	Part-whole	Production	5 items
	Whole-part	Production	5 items
Total			30 items

In the sections below, I outline the different rules that are assessed by the REALt and how the items in the REALt are set up to do so, indicate how participant responses to these items were scored, and present and discuss the data obtained from the Afrikaans LOLT and English LOLT participant groups in this study.


⁵⁹ The part vs. whole type is only assessed by means of production as the comprehension of Rule 2 cannot be elicited without already introducing the object. Even if the object is not introduced by means of the linguistic context, the physical context of using pictures would still have to introduce the object (i.e., the child would see the object in the picture, so the object would have been introduced visually). Once the object has been introduced, the point of testing a rule associated with a specified or unspecified object and the definite or indefinite reference attached to the specificity of an object becomes invalid, especially where Rule 2 applies (see section 5.7.3).

5.6 The comprehension of articles

5.6.1 Types of articles assessed in the comprehension set


For the comprehension of articles, the REALt focuses on assessing the general vs. general distinction in terms of general-specific and general-general subtypes. This is done by using 10 items in which the learner's comprehension of Rule 1 – that *a* refers to any object in a series whereas *the* refers to a specific object, namely the object which was previously mentioned – is assessed. Five of the 10 items focus on the general-specific subtype, as illustrated in Tables 5.2 and 5.3. The item in Table 5.2 illustrates Rule 1a and is accompanied by the following picture. (Note: In REALt items, words in bold are emphasised by the administrator.)

Table 5.2. Example of a Rule 1a comprehension item from the REALt

Picture	Stimulus and target 1	Stimulus and target 2	Follow-up if correct
	<p>Here are some cakes. Put your pointy finger on a cake.</p> <p>TARGET: Child's index finger on any cake</p>	<p>Good, and now put your thumb on the cake.</p> <p>TARGET: Child's thumb on the same cake</p>	<p>Excellent! So if I tell you to point to the cake, you need to point to the same cake that you already chose.</p>

Here, the learner must know that *the* in Stimulus 2 refers back to the cake which was mentioned in Stimulus 1; the learner must thus point to the same cake as before. The other five items of the general vs. general type target the learner's ability to point to a different object, as is illustrated by the item in Table 5.3. Here the learner must point to a general object in Stimulus 1 and to a different general object in Stimulus 2.

Table 5.3. Example of a Rule 1b comprehension item from the REALt

Picture	Stimulus and target 1	Stimulus and target 2	Follow-up if correct
	<p>Here are some hats. Put your thumb on a hat.</p> <p>TARGET: Child's thumb on any hat</p>	<p>Great, now put your pointy finger on a hat.</p> <p>TARGET: Child's index finger on any other hat</p>	<p>Very good! So if I tell you to point to a hat, you can point to any of the hats.</p>

This subtype of items thus tests the opposite of Rule 1a (Rule 1b), namely whether the learner comprehends not only that indefinite article *a* is general and definite article *the* is specific, but also Rule 1b, namely that general *a* can also follow a previously introduced item. The learner is thus confronted with the straight forward application of Rule 1a, but also the concept that Rule 1a does not apply in all contexts.

5.6.2 Scoring of article comprehension items

In the comprehension task, the response was taken to be either correct or incorrect: a target response was scored with a (1), and a non-target or incorrect response with a (0). If both Stimulus 1 and Stimulus 2 were responded to correctly, the item was scored as correct. If the response to Stimulus 1 was correct but that to Stimulus 2 incorrect, the whole item was scored as incorrect. If both stimuli were responded to incorrectly, the item was scored as incorrect. If the learner pointed with their thumb instead of their index finger or vice versa, this was recorded as such but the response was still taken as correct if the correct referent was indicated. The responses were also scored as correct if the learner pointed to the wrong noun (e.g., if the learner pointed to towels rather than to hats in the example above), as long as the correct referent was indicated in response to Stimulus 2 (i.e., as long as the learner then pointed to the other towel in response to Stimulus 2). The fact that the incorrect referent was selected was then again recorded, as were instances of no responses from learners.

5.6.3 Results: Article comprehension

5.6.3.1 Afrikaans

Table 5.4 below presents the Afrikaans group's scores for the article comprehension items related to the general vs. general type. As can be seen here, the mean percentage correct responses increased from 55 to 67% from Phase 1 (February) to Phase 2 (October) for the total comprehension set (general-general subtype and general-specific subtype together). This increase was statistically significant ($p = 0.015$).⁶⁰ The direction of the significance is indicated by the Box and Whiskers plot to be in a positive direction, where the results were higher in Phase 2 than in Phase 1, indicating significant development for the comprehension of articles overall. The results summarised in Table 5.4 are discussed further below. (Note that, significant p-values are printed in bold in tables throughout.)

Table 5.4. Comparison of Afrikaans article comprehension Phase 1 and Phase 2 descriptive statistics for Rule 1 (in percentage)

Variable	Afrikaans - Phase 1 Descriptive Statistics Comprehension				Afrikaans - Phase 2 Descriptive Statistics Comprehension				Phase 1 vs. 2 (Wilcoxon Matched Pairs Test; direction as indicated by Box and Whiskers plots)	
	Mean	Min	Max	Std. dev.	Mean	Min	Max	Std. dev.	p-value for comparison of Afrikaans Phases 1 and 2	% difference between mean scores
General-general score	55	0	100	0.362	87	20	100	0.222	0.0005	+32
General-specific score	55	0	100	0.391	48	0	100	0.329	0.4566	-7
Comprehension TOTAL score	55	20	100	0.172	67	30	100	0.179	0.0150	+12

It becomes clear from the difference in the average scores between Phase 1 and Phase 2 that the Afrikaans learners responded more successfully to the general-general subtype than to the general-specific subtype. This is illustrated by an increase of 32% from Phase 1 to Phase 2 for those items focusing on the general-general distinction (e.g., *a hat* and *a hat* as in . above), and a decrease of 7% for those focusing on general-specific (e.g., *a cake* and *the cake* as in Table 5.3). Based on the number of learners who responded correctly per item, the Afrikaans group had a significantly better grasp ($p = 0.0005$) of Rule 1a in Phase 2 than in Phase 1. For the distinction between general-specific (Rule 1b), there is no such development.

⁶⁰ Differences between scores were taken to be statistically significant where $p < 0.05$.

The fact that the average percentage of responses correct is 87% for the general-general subtype in Phase 2 shows that despite the fact that development occurred over time,⁶¹ Rule 1 is still not completely acquired by the end of Gr 1. (Recall that in this study 90% or more is the set percentage for full acquisition, following Southwood and Van Dulm (2012b) and others).

5.6.3.2 English

In the English group, the mean percentage correct responses for all comprehension items together increased from 45 to 77% from Phase 1 to Phase 2. This increase was statistically significant ($p = 0.0002$), and the Box and Whiskers plots indicate the change to be in a positive direction, indicating significant development in the comprehension of articles overall. These results are summarised in Table 5.5 and are then discussed further below.

Table 5.5. Comparison of English article comprehension Phase 1 and Phase 2 descriptive statistics for Rule 1 (in percentage)

Variable	English - Phase 1 Descriptive Statistics Comprehension				English - Phase 2 Descriptive Statistics Comprehension				Phase 1 vs. 2 (Wilcoxon Matched Pairs Test; direction as indicated by Box and Whiskers plots)	
	Mean	Min	Max	Std. Dev.	Mean	Min	Max	Std. Dev.	p-value for comparison of English Phases 1 and 2	% difference between mean scores
General-general score	67	0	100	0.304	82	0	100	0.336	0.1500	+15
General-specific score	23	0	80	0.226	72	0	100	0.386	0.0001	+49
Comprehension TOTAL score	45	0	70	0.167	77	10	100	0.320	0.0002	+32

The percentage correct score in Phase 1 was 67% for general-general items and 23% for general-specific items, indicating that the English learners fared better with the former than with the latter at the start of Gr 1. In Phase 2, the percentage correct responses for the comprehension of general-general is very similar to that of general-specific: though still slightly higher for general-general (82%) than for general-specific (72%), the difference between percentage correct for the two subtypes has decreased from 44% in Phase 1 to 10% in Phase 2. The fact that both subtypes showed an increase in correct responses from Phase 1 to Phase 2 (a 15% increase for general-general and 49% for general-specific) indicates that

⁶¹ Note that it is not claimed that time itself (or mere natural maturation) was the cause of the improvement. The cause could be uptake by the learner of the input to which s/he was exposed in the classroom (or elsewhere) or another reason. Speculation as to the precise reasons underlying such development falls outside the scope of this dissertation.

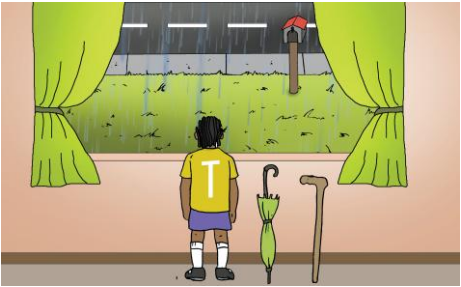

both types of distinction underwent some development during the Gr 1 year. It thus appears that the English group had a better grasp of Rule 1 a and b in Phase 2 than in Phase 1. However, only the development for the general-specific subtype is significant ($p = 0.0001$), and comprehension of neither of the two subtypes had been mastered by the end of Gr 1.

5.7 The production of articles

5.7.1 Types of articles assessed in the production set

Learners' production of articles of the general vs. general type as well as the part vs. whole type was assessed. Ten production items targeted the learners' use of the general vs. general type. In the case of this type, Rule 1 applies. Recall that Rule 1a (general-specific subtype) states that when an object has been directly mentioned in the preceding discourse, *the* must be used when talking further about the object, whereas Rule 1b (general-general subtype) states that when an object has not been referred to in the preceding discourse, and the object is also not visible in the accompanying picture, *a* must be used to refer to the object. The two items in Table 5.6 are illustrative of these two rules.

Table 5.6. Examples of Rules 1a and 1b production items from the REALt



Picture	Stimulus	Target
	<p><i>Rule 1a (general-specific):</i> Thandi has to go out in the rain to fetch the post. She has a walking stick and an umbrella. Guess which one she takes.</p>	<p>the umbrella</p>
	<p><i>Rule 1b (general-general):</i> Debbie is picking up rubbish on the playground. What can she put it in?</p>	<p>a bag / a packet / a bin</p>

The part vs. whole type included a further 10 items, in which two versions of Rule 2 were tested, namely:

- 2a. When any part of an unspecified whole has already been mentioned, the unspecified whole must be referred to with *a* (for the part-whole subtype).
- 2b. When the whole has already been mentioned, any part of the whole must be referred to with *the* (for the whole-part subtype).

The two items in Table 5.7 illustrate Rules 2a and 2b, respectively:

Table 5.7. Examples of Rules 2a and 2b production items from the REALt

Picture	Stimulus	Target
	<p><i>Rule 2a (part-whole):</i> Stevie has picked up this wheel in the road. What do you think it comes from?</p>	<p>a bicycle / a car</p>
	<p><i>Rule 2b (whole-part):</i> Mrs Zulu is making cupcakes and she needs to add an egg to the mixture. What must she crack first?</p>	<p>the (egg)shell / the outside</p>

5.7.2 Scoring of article production items

Scoring for the production items of articles in the part vs. whole and the general *a* vs. specific *the* subtypes was done in the same manner: A correct response was scored with a (1). If the learner provided the correct article but the wrong noun, the response was still scored as correct, as the focus of this task falls on the use of the correct (in)definite reference and determinateness and not on vocabulary or correct noun production. For instance, *a wood* instead of *a stick* was scored correctly. Where learners provided plural nouns and non-count

nouns like *wood, sugar, flour, food* or *cake* without an article, these responses were scored as incorrect, as the learner had not understood from the context that an article was required in the response; despite the fact that the response was grammatically correct, it was inappropriate in this context. In the cases where the learner did not or could not provide a response, a score of (0) was awarded. A completely unrelated response (such as when the learner told a story or made an unrelated statement) was also scored with a (0). Incorrect use of the article was also awarded (0), but it was noted whether the response entailed the use of *the* instead of *a*, the use of *a* instead of *the*, or the use of a noun with no article.

5.7.3 Results: Article production

5.7.3.1 Afrikaans

The total production score which provides an average of the general vs. general type and the part vs. whole type together shows that there is no significant development between Phase 1 and Phase 2 ($p = 0.420$), as outlined in Table 5.8.

Table 5.8. Comparison of Afrikaans article production Phase 1 and Phase 2 descriptive statistics for article production - Rules 1 and 2 (in percentage)

Variable	Afrikaans - Phase 1 Descriptive Statistics Production				Afrikaans - Phase 2 Descriptive Statistics Production				Phase 1 vs. 2 (Wilcoxon Matched Pairs Test; direction as indicated by Box and Whiskers plots)	
	Mean	Min	Max	Std. dev.	Mean	Min	Max	Std. dev.	p-value for comparison of Afrikaans Phases 1 and 2	% difference between mean scores
Production TOTAL score	57	10	80	0.165	61	5	85	0.205	0.4202	+4

When looking at articles in terms of production Rule 1 for the general vs. general type as well as production Rule 2 for the part vs. whole type in the sections below, more subtle differences and developmental patterns appear which are not visible from the combined production score.

Production of Rule 1 (general-general and general-specific subtypes)

The Afrikaans group had a mean correct response rate of 57% for the production of the general-general subtype of articles in Phase 1 (see Table 5.9). In Phase 2, this mean increased only slightly, to 62%. The average of correct responses for the general-specific subtype decreased slightly from Phase 1 to Phase 2 (from 53 to 48%). Neither of these two changes

was statistically significant. These results for the production subtypes by the Afrikaans group are discussed further below in conjunction with the types of errors made by the Afrikaans group, shown in Table 5.10.

Table 5.9. Comparison of Afrikaans article production Phase 1 and Phase 2 descriptive statistics for Rule 1 (in percentage)

Variable	Afrikaans - Phase 1 Descriptive Statistics Production				Afrikaans - Phase 2 Descriptive Statistics Production				Phase 1 vs. 2 (Wilcoxon Matched Pairs Test; direction as indicated by Box and Whiskers plots) for Rule 1	
	Mean	Min	Max	Std. dev.	Mean	Min	Max	Std. dev.	p-value for comparison of Afrikaans Phases 1 and 2	% difference between mean scores
General-general score	57	0	100	0.240	62	0	100	0.244	0.5901	+5
General-specific score	53	0	100	0.373	48	0	100	0.329	0.4938	-5

When considering the types of errors made for the general-general items in Afrikaans (see Table 5.10), two observations can be made. The percentage of inappropriate / irrelevant responses decreased from Phase 1 to Phase 2, whereas no responses, wrong article use and no article responses increased in terms of the overall percentage of error types.

For the types of errors made on the general-specific items in Afrikaans, the percentage of inappropriate / irrelevant responses also decreased from Phase 1 to Phase 2, as was the case for the general-general items (see Table 5.10). The percentage of no responses and no articles increased from the beginning to the end of the year.

Table 5.10. Average group percentage for Afrikaans article production Rule 1 error types

General-general items	Afr Phase 1 group average	Afr Phase 2 group average
Percentage of no responses	0	13
Percentage of wrong article	35	42
Percentage of no article (bare noun)	30	34
Percentage of inappropriate / irrelevant responses	35	11
General-specific items	Afr Phase 1 group average	Afr Phase 2 group average
Percentage of no responses	0	11
Percentage of wrong article	31	30
Percentage of no article (bare noun)	53	57
Percentage of inappropriate / irrelevant responses	16	2

The above breakdown of the average percentages for the error types for each subtype is visually represented and compared by phase in the following four figures. The percentage correct responses are also included in these figures so as to provide a visual overview of all response types of the learners.

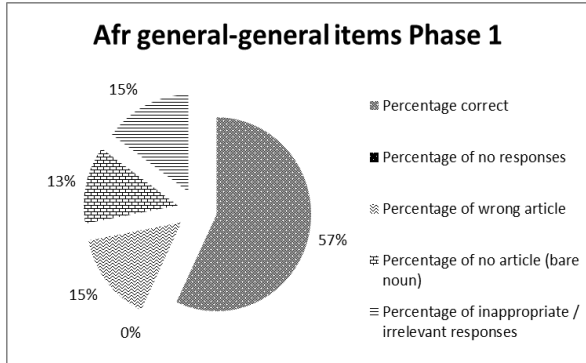


Figure 5.1. Breakdown of Afrikaans error types for general-general article subtype in Phase 1

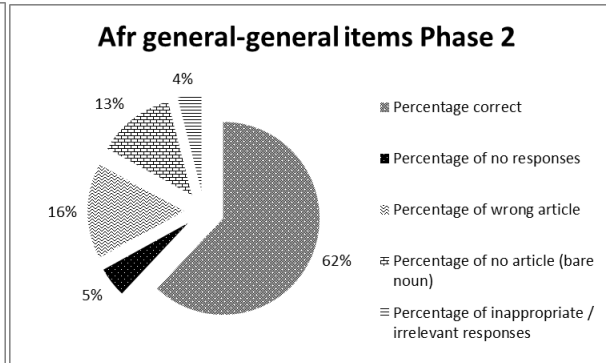


Figure 5.2. Breakdown of Afrikaans error types for general-general article subtype in Phase 2

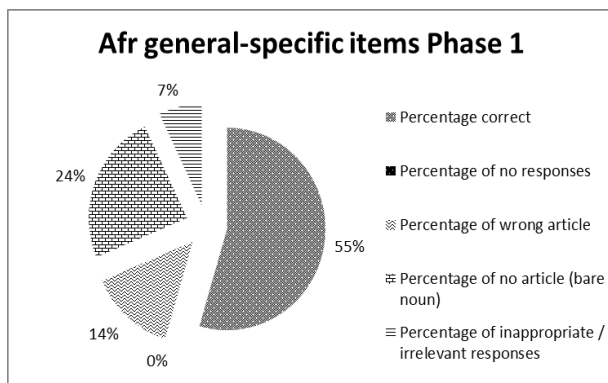


Figure 5.3. Breakdown of Afrikaans error types for general-specific article subtype in Phase 1

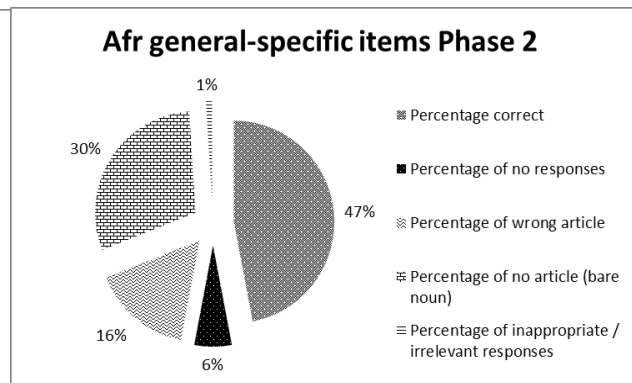


Figure 5.4. Breakdown of Afrikaans error types for general-specific article subtype in Phase 2

A comparison of the number of correct responses by the Afrikaans group during Phase 1 and Phase 2 shows only a slight distinction between general-general and general-specific article production. The accuracy of applying Rule 1 in the production of articles thus stayed more or less the same from the start to the end of Gr 1. The manner in which these items were responded to, however, changed from the start to the end of Gr 1. For the general vs. general distinction, the mean percentage of errors for no article and wrong article remained fairly constant from Phase 1 to Phase 2. Fewer inappropriate / irrelevant responses and more no responses were however given in Phase 2. A similar pattern was observed for the general-general subtype, with a slight increase in terms of no article responses in Phase 2.

In conclusion, very little development occurred for general-general and general-specific over the Gr 1 year, but the Afrikaans learners still fared better with the former subtype than with the latter. No subtype had a percentage of 90 or above for responses correct and thus neither of the two subtypes can be said to be fully acquired at the end of Gr 1. From the change in types of errors made, it is however clear that the knowledge in terms of production of these subtypes did not remain stagnant.

Production of Rule 2 (part-whole and whole-part subtypes)

For the production of the part-whole subtype of articles by the Afrikaans group in Phase 1, a mean percentage of correct responses of 41% was attained (see Table 5.11). In Phase 2, this increased to 62%. This difference between phases was statistically significant ($p = 0.006$, see Table 5.11), indicating that significant development occurred for the part-whole subtype from the start to the end of Gr 1. By contrast, the whole-part subtype decreased from 79% to 71% from Phase 1 to Phase 2, but this decrease was not significant.

Table 5.11. Comparison of Afrikaans article production Phase 1 and Phase 2 descriptive statistics for Rule 2 (in percentage)

Variable	Afrikaans - Phase 1 Descriptive Statistics Production				Afrikaans - Phase 2 Descriptive Statistics Production				Phase 1 vs. 2 (Wilcoxon Matched Pairs Test; direction as indicated by Box and Whiskers plots) for Rule 2	
	Mean	Min	Max	Std. dev.	Mean	Min	Max	Std. Dev.	p-value for comparison of Afrikaans Phases 1 and 2	% difference between mean scores
Part-whole score	41	0	100	0.303	62	20	100	0.285	0.0062	+21
Whole-part score	79	0	100	0.266	71	0	100	0.285	0.2719	-8

Table 5.12 indicates the distribution of error types in the two phases for both subtypes. When considering the types of errors made for both part-whole and whole-part, three observations can be made. Firstly, for both subtypes, there was an increase in two error types, namely no response and no article, for both part-whole and whole-part. Secondly, inappropriate / irrelevant responses decreased in both subtypes. Thirdly, for the part-whole subtype predominantly wrong articles were used in both phases whereas for the whole-part subtype no articles were predominantly used in both phases.

Table 5.12. Average group percentage for Afrikaans article production Rule 2 error types

Part-whole items	Afr Phase 1 group average	Afr Phase 2 group average
Percentage of no responses	2	11
Percentage of wrong article	46	43
Percentage of no article (bare noun)	28	35
Percentage of inappropriate / irrelevant responses	24	11
Whole-part items	Afr Phase 1 group average	Afr Phase 2 group average
Percentage of no responses	5	21
Percentage of wrong article	14	4
Percentage of no article (bare noun)	36	61
Percentage of inappropriate / irrelevant responses	45	14

A comparison of the number of correct responses for the Afrikaans group during Phase 1 and Phase 2 shows a distinction between part-whole and whole-part article production. The mean percentage correct responses for these two subtypes differed greatly from Phase 1 to Phase 2: The mean percentage correct for part-whole (Rule 2a) increased by 21% whereas that for whole-part (Rule 2b) decreased by 8%. The manner in which these items were responded to however also changed from the start to the end of Gr 1, as explained above. The breakdown of error types for each subtype is visually represented and compared by phase in the following four graphs. Again, in order to allow a general overview of all responses given, correct responses are also included in these figures.

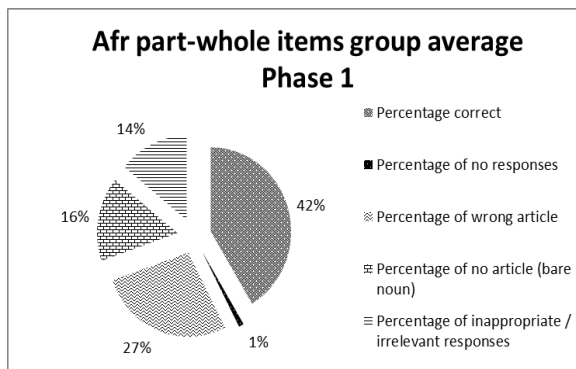


Figure 5.5. Breakdown of Afrikaans error types for part-whole article subtype in Phase 1

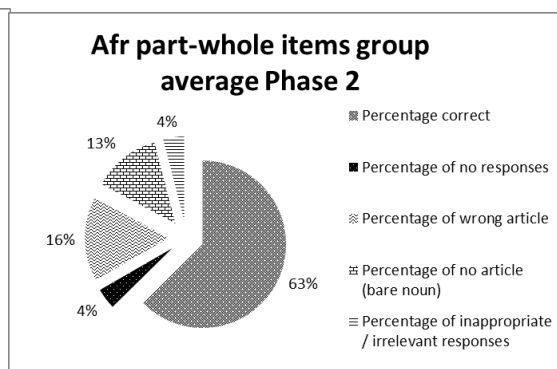


Figure 5.6. Breakdown of Afrikaans error types for part-whole article subtype in Phase 2

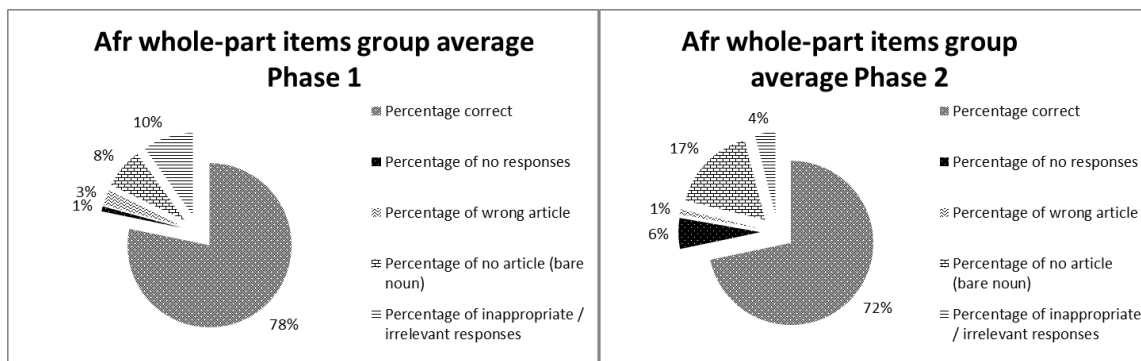


Figure 5.7. Breakdown of Afrikaans error types for whole-part article subtype in Phase 1

Figure 5.8. Breakdown of Afrikaans error types for whole-part article subtype in Phase 2

The last comparison, between the error types in Phase 1 and the error types in Phase 2, further illustrates that no development occurred for the whole-part subtype, as the average percentage correct responses decreased slightly (from 79% to 71%), but that development did occur for the part-whole subtype, as there was a substantial, and statistically significant ($p = 0.006$), increase in the percentage of correct responses (from 41% to 62%). The average percentage correct responses was however higher for the whole-part subtype than for the part-whole subtype in both phases. Therefore, learners fared better with the whole-part subtype at the start and at the end of Gr 1 whereas development occurred only for the part-whole subtype over the course of Gr 1. No subtype had 90% or more correct responses and thus neither of the two subtypes were fully acquired at the end of Gr 1. From the change in types of errors made, it is clear that production of part-whole relationships, though not fully developed yet, did not remain stagnant either over the course of the Gr 1 year.

5.7.3.2 English

In terms of total production score for the general vs. general and part vs. whole types together, no significant change occurred between Phases 1 and 2 ($p = 0.471$), as outlined in Table 5.13.

Table 5.13. Comparison of English article production Phase 1 and Phase 2 descriptive statistics for article production – Rules 1 and 2 (in percentage)

Variable	English- Phase 1 Descriptive Statistics Production				English - Phase 2 Descriptive Statistics Production				Phase 1 vs. 2 (Wilcoxon Matched Pairs Test; direction as indicated by Box and Whiskers plots)	
	Mean	Min	Max	Std. dev.	Mean	Min	Max	Std. dev.	p-value for comparison of English Phases 1 and 2	% difference between mean scores
Production TOTAL score	20	0	40	0.136	18	0	50	0.147	0.4711	-2

When looking at articles in terms of production of Rule 1 (for the general vs. general subtype) and Rule 2 (for the part vs. whole subtype) in the sections below, more subtle differences and developmental patterns, not visible from the overall production score, appear between the subtypes and the phases.

Production of Rule 1 (general-general and general-specific subtypes).

In terms of production of the general-general subtype by the English group, the mean remained the same for Phase 1 and Phase 2, at 28% responses correct (see Table 5.14). The average percentage correct for the general-specific subtype was 22% in Phase 1, compared to 12% in Phase 2. Despite this change being significant ($p = 0.036$), it does not indicate development but rather regression, because participants fared better in Phase 1 than in Phase 2.

Table 5.14. Comparison of English article production Phase 1 and Phase 2 descriptive statistics for Rule 1 (in percentage)

Variable	English - Phase 1 Descriptive Statistics Production				English - Phase 2 Descriptive Statistics Production				Phase 1 vs. 2 (Wilcoxon Matched Pairs Test; direction as indicated by Box and Whiskers plots) Rule 1	
	Mean	Min	Max	Std. dev.	Mean	Min	Max	Std. dev.	p-value for comparison of English Phases 1 and 2	% difference between mean scores
General-general score	28	0	80	0.267	28	0	80	0.252	0.8202	0
General-specific score	22	0	80	0.227	12	0	100	0.224	0.0364	-10

When considering the types of errors made by the English group in terms of the production of Rule 1 (see Table 5.15), the following observations are made. Whereas the percentage of inappropriate / irrelevant responses and no responses decreased from Phase 1 to Phase 2 for both subtypes, the percentage of wrong article responses increased for both subtypes. Furthermore, whereas no article responses increased by 10% for the general-general subtype, it decreased by 19% for the general-general subtype.

Table 5.15. Average group percentage for English production Rule 1 error types

General-general items	Eng Phase 1 group average	Eng Phase 2 group average
Percentage of no responses	30	8
Percentage of wrong article	22	60
Percentage of no article (bare noun)	14	24
Percentage of inappropriate / irrelevant responses	34	8
General-specific items	Eng Phase 1 group average	Eng Phase 2 group average
Percentage of no responses	20	3
Percentage of wrong article	22	73
Percentage of no article (bare noun)	43	24
Percentage of inappropriate / irrelevant responses	15	0

The above breakdown of the average percentages for the error types for each subtype is visually represented and compared by phase in the following four figures. These four figures amongst other things show that there is of course a slight increase in errors due to the decrease in correct responses for both subtypes. Note that in Phase 1, 7% of the general-general and 12% of the general-specific subtypes’ response types were attributed to no available data.⁶² Both these percentages decreased to 0% from Phase 1 to Phase 2, meaning that 7% and 12% of the responses were attributed to either correct responses or other error types.

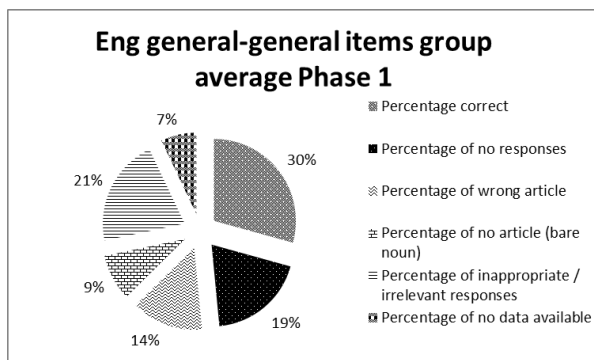


Figure 5.9. Breakdown of English error types for general-general article subtype in Phase 1

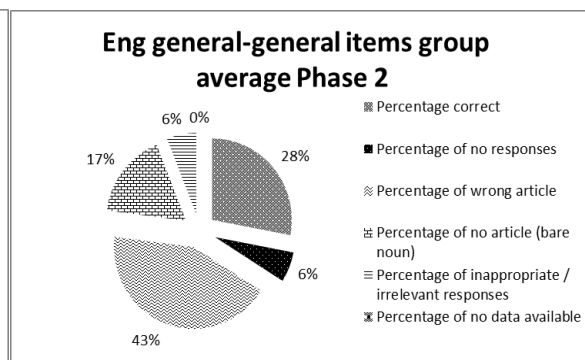


Figure 5.10. Breakdown of English error types for general-general article subtype in Phase 2

⁶² In this case, the reference to “no data available” refers to the fact that part of the subset items was not administered so as to not cause the learner, who had by the middle of the task not given any correct responses and possibly found the task unpleasant, any distress.

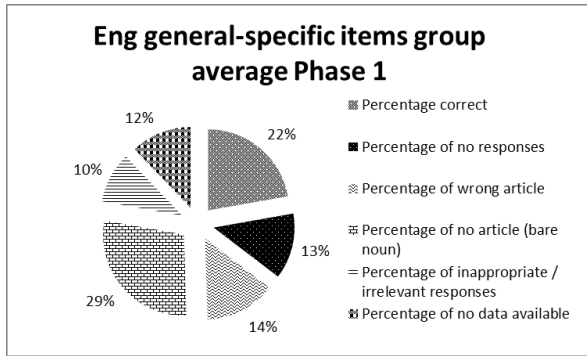


Figure 5.11. Breakdown of English error types for general-specific article subtype in Phase 1

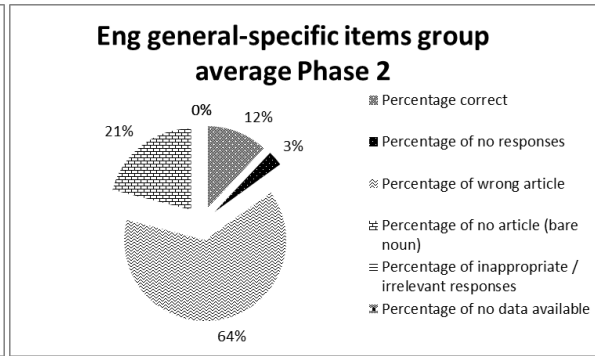


Figure 5.12. Breakdown of English error types for general-specific article subtype in Phase 2

The accuracy of applying Rule 1b in article production thus decreased significantly from the start to the end of Gr 1 for the general-specific subtype in the English group. The manner in which these items were responded to also changed over the course of the Gr 1 year (as explained above). Note that for both the general-general and general-specific subtypes the substantial variation between error types decreased from Phase 1 to Phase 2, with the use of wrong articles becoming the prominent error type in Phase 2.

In conclusion, no noteworthy development occurred for the production of either article subtypes over the course of Gr 1, but the English LOLT participants fared better with the general-general subtype in both phases. Neither subtype had a percentage of 90 or more correct responses and thus neither of the two was fully acquired at the end of Gr 1. However, as was the case for the Afrikaans group, the change in types of errors made indicates that learners' knowledge of articles did not remain stagnant.

Production of Rule 2 (part-whole and whole-part subtypes).

An average of 14% of the production items of the part-whole subtype of articles was responded to correctly by the English group in Phase 1. In Phase 2, this average decreased to 8%. For the whole-part subtype, the average percentage correct increased from 16 to 23%. However, neither of these two changes (the decrease for part-whole or the increase for whole-part) was statistically significant (see Table 5.16).

Table 5.16. Comparison of English article production Phase 1 and Phase 2 descriptive statistics for Rule 2 (in percentage)

Variable	English - Phase 1 Descriptive Statistics Production				English - Phase 2 Descriptive Statistics Production				Phase 1 vs. 2 (Wilcoxon Matched Pairs Test; direction as indicated by Box and Whiskers plots) Rule 2	
	Mean	Min	Max	Std. dev.	Mean	Min	Max	Std. dev.	p-value for comparison of English Phase 1 and 2	% difference between mean scores
Part-whole score	14	0	100	0.239	8	0	60	0.177	0.5383	-6
Whole-part score	16	0	60	0.189	23	0	80	0.248	0.4080	+7

When considering the types of errors made for both subtypes' items in English (see Table 5.17), the following observations can be made: The percentage of inappropriate / irrelevant responses decreased for both subtypes, whereas the percentage of no responses decreased only for the part-whole subtype and remained relatively stable for the whole-part subtype. Furthermore, the wrong article response increased for both subtypes. Whereas no article responses increased for the whole-part subtype, it decreased for the part-whole subtype.

Table 5.17. Average group percentage for English article production Rule 2 error types

Part-whole items	Eng Phase 1 group average	Eng Phase 2 group average
Percentage of no responses	19	9
Percentage of wrong article	24	72
Percentage of no article (bare noun)	32	16
Percentage of inappropriate / irrelevant responses	25	3
Whole-part items	Eng Phase 1 group average	Eng Phase 2 group average
Percentage of no responses	34	30
Percentage of wrong article	5	51
Percentage of no article (bare noun)	4	11
Percentage of inappropriate / irrelevant responses	37	8

This breakdown of the distribution of error types for each subtype (part-whole and whole-part) is visually represented and compared by phase in the following four graphs. It is important to note that in Phase 1, 20% of the part-whole and 12% of the whole-part subtypes' response types were attributed to no available data. Both these percentages decreased to 0% from Phase 1 to Phase 2, showing that 20% and 12% of the responses were attributed to either correct responses or other error types.

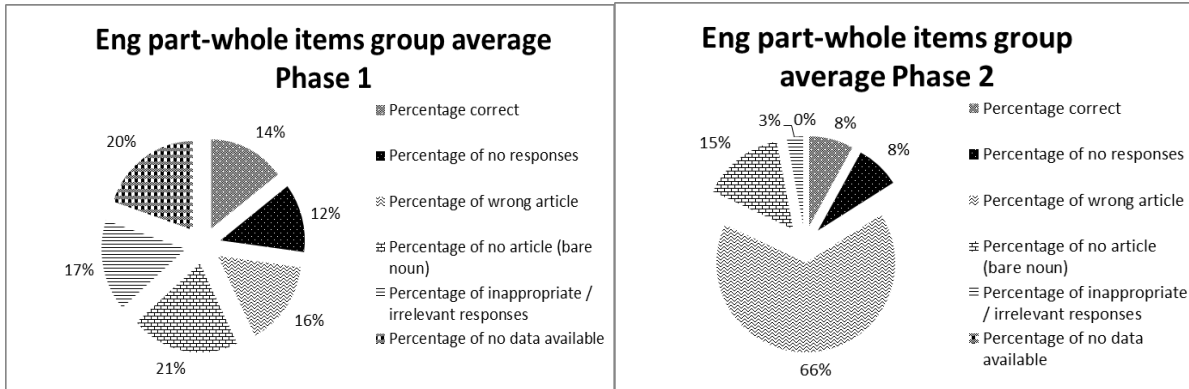


Figure 5.13. Breakdown of English error types for part-whole article subtype in Phase 1

Figure 5.14. Breakdown of English error types for part-whole article subtype in Phase 2

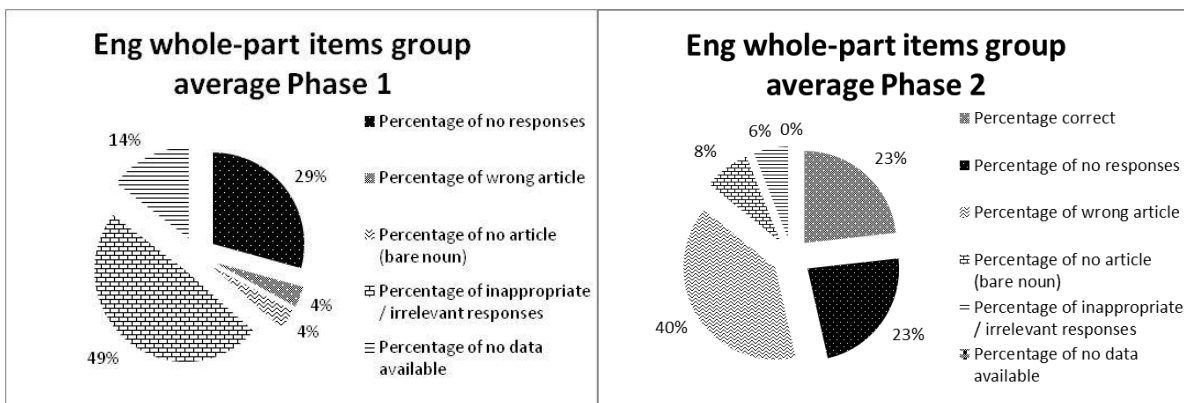


Figure 5.15. Breakdown of English error types for whole-part article subtype in Phase 1

Figure 5.16. Breakdown of English error types for whole-part article subtype in Phase 2

In conclusion, (i) some development occurred for the whole-part subtype of articles in the English group, as the average percentage correct increased slightly from Phase 1 to Phase 2, but (ii) no development occurred for the part-whole subtype, as there was a slight decrease in the average percentage of correct responses. The average percentage is however higher for the whole-part subtype than for the part-whole subtype in both phases. Therefore, learners fared better with the whole-part subtype at the start and at the end of Gr 1. The percentage of correct responses was not 90% or more for any of the two subtypes, and thus neither is fully acquired by the end of Gr 1. From the change in the distribution of types of errors made, it is again clear that even though the participants' knowledge of articles, as indicated by their production, is not yet fully developed, it is not stagnant either.

5.8 Conclusion

From the literature reviewed on the development of articles in child language (see section 5.3), there is no consensus regarding what the exact age is at which articles are fully acquired. The general consensus from the studies reviewed however appears to be the following:

- (i) There is still incomplete mastery of article rule usage between the ages of 5 and 9 (Karmiloff-Smith 1979:40).
- (ii) Omission of articles from obligatory syntactic positions commonly occurs before 3;0 years, after which it is uncommon (Abu-Akel et al. 2004; Brown 1973; Maratsos 1976; Schaeffer & Matthewson 2005).
- (iii) With previous REALt testing, all age groups (the youngest being 4 years of age) successfully produced the part-whole relations (Southwood & Van Dulm 2012b).
- (iv) The production of Rule 1 (a and b) relations (general-general and general-specific) is to some extent more challenging than the production of Rule 2 (a and b) relations (part-whole and whole-part) (Southwood & Van Dulm 2012b).
- (v) L1 learners achieve more accuracy with the definite than the indefinite article (Zdorenko and Paradis (2007:483)). Note, however, that for Afrikaans-speaking and English-speaking participants of all age groups in the Southwood and Van Dulm (2012b) study, the definite article proved to be decidedly more taxing.
- (vi) Error types such as the use of bare nouns, pronoun combinations, quantifier combinations, adjective-noun combinations and no responses are more common than completely or outright incorrect or inappropriate responses (Southwood & Van Dulm 2012b).
- (vii) L2 learners of English have consistent trouble in the use of articles until very late stages of acquisition (Zdorenko & Paradis 2007:483).
- (viii) L2 learners use bare nouns in inappropriate contexts and substitute or overuse the definite article in contexts where *a(n)* is required (Huebner 1985; Ionin & Wexler 2003; Ionin et al. 2004; Lu 2001).
- (ix) The use of null articles occurs in both definite and indefinite contexts (Zdorenko & Paradis (2007:488-489).

Regarding point (i) above, the results of the present study show that the participants (aged 6;9 to 8;3) have not yet mastered articles completely. The use of bare nouns was still fairly

common in the present study; the second general finding was thus not supported by this study (see discussion further below).

Whereas with previous REALt testing all age groups successfully produced the part vs. whole relation, in this study the opposite was found: the L1 Afrikaans group showed a high level of correct use of the part vs. whole relation at the end of Gr 1, but had not yet successfully mastered this relation. The English group (comprising mostly L2 speakers of English) showed no mastery, with overall percentages much lower for the English than for the Afrikaans group.

The literature also pointed to the fact that production of Rule 1 relations is to some extent more challenging than production of Rule 2 relations (see general consensus point iv). In this study, this is true for the Afrikaans group but not the English group. The production data indicate that in Phase 2 Rule 1 was more challenging than Rule 2 for the Afrikaans group. The opposite was however the case for the English group in Phase 2, as Rule 1 was easier than Rule 2.

As regards the fifth general point of consensus, the results of this study also indicate that definite articles were challenging for the learners. Afrikaans learners had difficulties in terms of comprehending the general vs. specific relations where they had to identify the definite object. This was also the case with the Afrikaans production types, as learners fared slightly better (but not significantly so) with the production of the general-general subtype than with the general-specific subtype in Phase 1 and in Phase 2. The English learners also showed difficulties in terms of comprehending the general-specific relations where they had to identify the definite object. This was also the case with the English production types, as learners fared slightly better with the production of the general-general subtype in Phases 1 and 2 than with the general-specific subtype. Overall, the learners found the indefinite article easier than the definite article when looking at the comprehension and production of Rule 1. This points to the second part of general consensus point 5, where the definite article proved to be decidedly more taxing for both Afrikaans and English participants.

The opposite was found for Rule 2 relations for Afrikaans and English; here the learners had more difficulty with the indefinite article. The Afrikaans (L1) and the English (mostly L2) groups fared better with the part-whole subtype where the indefinite article was required than

with the whole-part subtype where the definite article was required. Thus the results point to the fact that the L1 and L2 learners achieve more accuracy with the definite than the indefinite article. It is however important to note that Rule 2 has fewer assessed items in the REALt than does Rule 1, because the former is only tested in the production sets and not in both the production and comprehension sets (as is the case for Rule 1). Overall, the data however indicate that the definite article proved more taxing for both the Afrikaans and the English group. It further also becomes clear that the context and the rules which are applicable contribute to whether definite or indefinite articles are easier, as is illustrated by the converse results associated with Rules 1 and 2.

Regarding the sixth point of general consensus, the use of bare nouns in inappropriate contexts by L2 learners was also found in this study (thus for the English group) in both production subsets. Results from Phases 1 and 2 show that bare nouns are used rarely in some cases and quite frequently in others, with percentages for the English general-general subtype ranging from 14% to 24% for Phases 1 and 2 whereas percentages for the English general-specific subtype was 43% and 24% for Phase 1 and 2, respectively. The English part-whole subtype shows percentage correct scores of 4% and 11% for Phases 1 and 2 whereas the whole-part subtype shows 32% and 16%. The use of bare nouns in inappropriate contexts thus clearly occurs, especially with the English general-specific subtype in Phase 1. That said, production data in Phase 1 of the present study indicate that inappropriate or irrelevant responses occur more frequently than other non-target response types.

The use of bare nouns in inappropriate contexts does not only occur amongst the L2 speakers of English but also amongst the low SES L1 speakers of Afrikaans. Results from Phases 1 and 2 show that bare nouns are used rarely in some cases and quite frequently in others, with percentages for the Afrikaans general-general subtype being 30% for Phase 1 and 35% for Phase 2 whereas the percentages for the Afrikaans general-specific subtype was 53% and 57% for Phases 1 and 2, respectively. The Afrikaans part-whole subtype shows percentages of 25% and 35% for no article responses in Phase 1 and 2 whereas the whole-part subtype shows 36% and 61%. There is thus clearly a use of bare nouns in inappropriate contexts.

Regarding general consensus point 9, there is evidence of L1 and L2 speakers in the present study using null articles in both definite and indefinite contexts – firstly, those where null articles can refer to the use of bare nouns explicated in the paragraph above, but also with the

use of plural and non-count nouns as responses in the production types. Null articles did indeed occur with plural and non-count nouns, but this was a rare occurrence. Out of the 20 production items, only two items were constructed in such a way that the context could validate such responses. For these two items, a maximum of only five learners from each group used plural or non-count nouns. It is thus also, contrary to the conclusions from the literature overview, not uncommon that omission of articles from obligatory syntactic positions occurs after 3;0 years of age.

Returning to general consensus point 1, the results of the present study indicate that L2 learners of English have trouble with the use of articles even after several months of consistent exposure, as the English group could not master any of the production types. This is however also the case for the L1 speakers of Afrikaans; full mastery occurs only after Gr 1.

The following table provides an overview of the results according to the article types and subtypes for the two language groups. The differences between the results of the two REALt-based studies (that of Southwood and Van Dulm (2012b) and the present one) could lie in the fact that Southwood and Van Dulm's participants were from mid SES backgrounds whereas those in the present study were from low SES backgrounds. Furthermore, their English-speaking learners were monolingual (L1) speakers of English whereas those in the present study were beginner L2 learners of English.

Table 5.18. Comparison of comprehension and production age of article acquisition in the relevant literature, results obtained by Southwood and Van Dulm (2012b) and the results of the present study

Article types and subtypes		Age of acquisition according to literature	Age of acquisition according to REALt		Age of acquisition according to present study	
			Afrikaans	English	Afrikaans	English
Comprehension						
General vs. general	General-general	Not indicated in studies	4 years	4 years	After end of Gr 1 (6;9-8;3)	After end of Gr 1 (6;9-8;2)
	General-specific				After end of Gr 1 (6;9-8;3)	After end of Gr 1 (6;9-8;2)
Production						
General vs. general	General-general	Between 5 and 9 years	7 years	4 years	After end of Gr 1 (6;9-8;3)	After end of Gr 1 (6;9-8;2)
	General-specific					
Part vs. whole	Part-whole	Between 5 and 9 years	5 years	4 years	After end of Gr 1 (6;9-8;3)	After end of Gr 1 (6;9-8;2)
	Whole-part					

To summarise the results of this study as they pertain to articles: Despite obtaining relatively high scores, the Afrikaans (L1) group had not yet mastered article comprehension by the start of Gr 1. By the end of Gr 1, the Afrikaans group had however almost mastered the general-general subtype (obtaining 87%), with significant development taking place over the course of the school year, but not the general-specific subtype (which underwent no measureable change). The L2 English group, by contrast, had mastered article comprehension neither at the start nor at the end of Gr 1 despite the high level of skill they showed at the start of Gr 1 for the general-general subtype (higher than that of the Afrikaans group at the start of Gr 1). Generally, both English subtypes underwent development (significant development for general-specific) over time to render more advanced comprehension of both subtypes at the end of Gr 1, but not complete mastery.

Regarding article production, the L1 Afrikaans group had not yet mastered the general vs. general relations, neither at the start nor at the end of Gr 1. Over the course of the school year, no visible development occurred; however, the Afrikaans group fared better with the general-general subtype than with the general-specific subtype. As pertains to the part vs. whole relation, the whole-part subtype underwent no development, but a high level of skill was present already at the start of Gr 1 (yet no mastery occurred). The part-whole subtype however was much lower at the start of Gr 1 than was the whole-part subtype. Generally speaking, significant development occurred in the Afrikaans group for the part-whole subtype over the course of the Gr 1 year, but no mastery was evident at the end of Gr 1. Turning to the L2 English group: They had not yet mastered the general vs. general relations at the start of Gr 1, nor at the end of Gr 1, with very low levels of skill being observed. Only slight development occurred over time for both subtypes; however, the English group fared better with the general-general subtype than with the general-specific subtype. For the part vs. whole relation, the whole-part subtype underwent slight development over time, but a low level of skill was observed at the start and end of Gr 1, with no mastery occurring. Development occurred for the part-whole subtype over the course of the school year but, again, no mastery occurred at the end of Gr 1 as low scores were obtained in Phase 2. In terms of errors made, the L2 English group showed a tendency to give fewer no responses or responses containing no article and more responses containing incorrect articles in Phase 2 than in Phase 1, which shows that they are at least more frequently attempting to produce an article of sorts in Phase 2.

Comparing the Afrikaans and English groups in terms of (i) how well each fared at the start and end of Gr 1 and (ii) the magnitude and nature of their progress would not be sensible, due to the fact that the Afrikaans groups consists of L1 speakers of Afrikaans (a language that makes use of one definite and one indefinite article) and the English group consists of mostly L2 speakers of English who are L1 speakers of isiXhosa (a language with no free-standing articles). Recall, furthermore, that no isiXhosa data were collected (because articles are not present in isiXhosa and therefore do not occur in the isiXhosa version of the REALt).

Chapter 6

Quantifiers

6.1 Introduction

This chapter will explore the literature available on L1 and L2 acquisition of quantifiers as well as provide a description of how quantifiers present themselves in Afrikaans, English and isiXhosa. The chapter further describes how quantifiers are tested by the REALt, how participant responses on the test items were scored and how these responses were analysed in this study.

6.2 Relevant properties of quantifiers

A quantifier is defined by Southwood and Van Dulm (2012b:17) as a word (or short phrase) which indicates the amount or quantity of an object that is referred to by the NP which the quantifier modifies. Brooks and Sekerina (2005/2006:177) state, in accordance with Braine and O'Brien (1998) and O'Brien, Roazzi, Athias, Dias, Brandão and Brooks (2003), that the format of this quantification must allow a distinction between properties, on the one hand, and individuals having these properties, on the other. According to Radford (2004:24), these properties of quantifiers are expressed by means of functional categories which serve to quantify the NP which follows them. As functional categories, quantifiers lack specific descriptive content and can thus modify any semantic noun class where grammatical restrictions do not prohibit such modification. Due to the fact that quantifiers modify NPs and determine the quantificational properties of noun expressions, quantifiers generally act as a type of determiner (Radford 2001:38-39). That said, there are not only determiner quantifiers but also adverbial quantifiers (Roeper, Strauss & Pearson 2004:4). Example (6.1) below illustrates how determiner quantifiers occur as the head of the quantifier phrase (QP; in this case *any potatoes*) and range over individuals (in this case *potatoes*) and not events. By contrast, adverbial quantifiers (see *any* in *any faster* in example (6.2)) range over events and situations (in this case the event of running; Roeper et al. 2004:4).

6.1. *I do not have [any potatoes]*

6.2. *This horse cannot run [any faster]*

The focus of this study falls only on determiner quantifiers. However, it is important to note what adverbial quantifiers entail, as much of the research outlined below focused on quantifiers of an adverbial nature.

The determiner/adverbial distinction is not the only classification of quantifiers. Radford (2004:244), for instance, classifies quantifiers as universal, existential or partitive. In this case, universal quantifiers are defined as a universal (or free choice) quantifier such as *all/both* (Radford 2009:476) in comparison to existential quantifiers of which the meaning relates to the existence of some entity. Accordingly, the quantifier *some* is sometimes said to be an existential quantifier, as in the sentence *There is some coffee in the pot* (where the coffee in the pot thus exists). By contrast, a sentence such as *Is there any coffee left?* questions the existence of coffee (Radford 2009:456). A partitive quantifier quantifies part of the members of a given set, as *some* in *Some students enjoy syntax* or *any* in *Do any students enjoy syntax?* (Radford 2009:471). Roeper (2007:94) makes the distinction between collective and distributive quantifiers, where *all* is collective whereas *every* is distributive. Cummins and Katsos (2010:2) outline the difference between comparative and superlative quantifiers, where comparative quantifiers include quantifiers such as *more than* and *less than* whereas superlative quantifiers are quantifiers such as *at most* and *at least*.

Beghelli and Stowell (1997:73) thus rightly state that it is possible to draw many different distinctions in how quantifiers can be classified, as is clear from Radford (2004), Roeper (2007) and Cummins and Katsos (2010), and provide another type of characterisation, namely one according to the syntax of quantifier scope, to divide QP types into five major classes. The concept ‘quantifier scope’ is essential to this categorisation of QPs. According to the standard theory of quantifier scope (developed by Beghelli & Stowell (1994) and Beghelli (1995)) in generative grammar, the scope of a quantifier is determined firstly by the c-command relations,⁶³ which are applicable at the level of Logical Form (LF)⁶⁴ and secondly by the movement which the QP undergoes during the derivation of the LF representation (Beghelli & Stowell 1997:7). Ultimately, “scope” implies the referential dependencies between the QPs and the clause in which the QPs occur (Beghelli 1993:66). For instance, the meaning of

⁶³ C-command refers to the relationship between nodes of a syntactical tree in which neither node is dominated by the other but both are dominated by the same higher nodes (Richards & Smith 2010:72). Reinhart (1976) defines c-command by stating that node A c-commands node B in a phrase if and only if (a) neither dominates the other and (b) every (branching) node that dominates A also dominates B (Büring 2005:8).

⁶⁴ See chapter 2 section 2.5.1.

every is “all possible”, but this meaning can extend to (i.e., have scope over) either the subject or the object of the sentence as illustrated in examples (6.3) and (6.4), respectively. *Every* can also assume scopal ambiguity; the sentence in example (6.5) is ambiguous as it can be implied that every boy sees the same dog or that there is a dog per boy and that every boy thus sees a dog different from the dog seen by every other boy (also see section 6.3.1).

6.3. *Every boy sees the dog*

6.4. *The boy sees every dog*

6.5. *Every boy sees a dog*

“Meaning” according to Roeper (2007:171) incorporates mental sets made up of a collection of features, and the way in which these features are grouped provides the definition of the concept being explored. The way in which we combine these features allows us to distinguish between singulars and plurals and degrees of quantification with which different concepts can be grammatically expressed when meaning and scope are combined. The manner in which each QP is governed and how the structure of each sentence ultimately looks help to resolve the ambiguity in interpretation and show the correct interpretation of each sentence in terms of the fixed meaning and the variant options for scope.⁶⁵ In example (6.3), *every* has scope over the subject *the boy* and all possible boys saw the same dog, whereas in example (6.4), *every* has scope over the object *the dog* and one boy thus sees x number of dogs, where the total number of dogs is x.

The general principle that all quantifiers have the same scope, as assumed by previous studies on scope (e.g., Aoun & Li 1989; May 1977, 1985; Hornstein 1995), is rejected by Beghelli and Stowell (1997) and Beghelli (1993).⁶⁶ This assumption was referred to as “quantifier raising”, where the uniformity of QP scope assignment is possible: There is no specific landing site for the QP in the movement operation; rather, any QP can be adjoined to any

⁶⁵ Although the purpose of this dissertation is not to provide a detailed overview as well as a syntactic and semantic explanation for differences in scope assignment, an overview is necessary to show that there are different scopal assignments and that these assignments do play a role in quantifier interpretation, depending on the quantifier in use and the position of that quantifier in the sentence. From the general and simplified overview given above, it becomes clear that there are complex processes which a child has to apply in order to interpret a quantified phrase correctly and that this complexity might or might not play a role in why different quantifiers prove to be more or less difficult for learners. This assumption is supported by Brooks and Sekerina (2005/2006:177) who outline that “although quantifiers play a very important role in logical reasoning (Braine & O’Brien 1998), their acquisition may be delayed relative to other sorts of lexical items (e.g., nouns and verbs) because their complex patterns of usage often result in interpretive ambiguities.”

⁶⁶ The structure of this section of the dissertation is based on the assumption that each quantifier has a different scope and thus previous research done in the field will be discussed for each quantifier separately.

(non-argument) XP. Beghelli and Stowell (1997) included aspects of both May (1977, 1985) and Hornstein's (1995) proposals to claim that some quantifiers undergo scopal movement and others do not (see also Beghelli 1993). Thus certain QP types (as outlined below) may take scope in the positions in which they are assigned case (henceforth "case positions") (remaining in situ at LF) whereas other QP types must move to distinct LF scope positions reserved for them. Lastly, QPs are further distinguished in terms of where in the hierarchical phrase structure of the clause the designated LF scope position is (Beghelli & Stowell 1997:73). Assignment of quantifier scope, according to Beghelli and Stowell (1997), thus involves both syntax and semantics, depending on the different possibilities associated with the scopal assignment. The following table outlines the different QP types, their logical function differentiation and LF positions (summary of Beghelli & Stowell 1997:73-74).⁶⁷ The relative scope positions of the different QP types based on their position in the functional structure of the clause are outlined in Figure 6.1 below (from Beghelli & Stowell 1997:76).

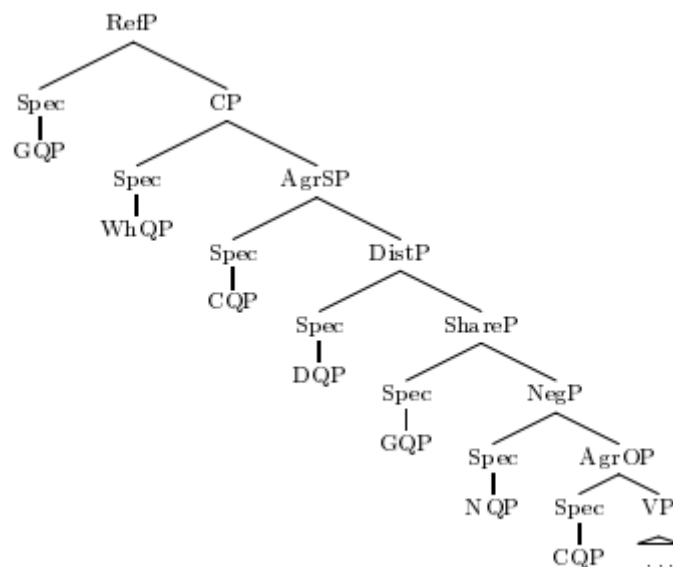


Figure 6.1. The relative scope positions of the different QP types based on their location in the functional structure of the clause (from Beghelli & Stowell, 1997:76)

⁶⁷ For more specific references to each QP type summarised in this table, see Beghelli and Stowell (1997).

Table 6.1. The different QP types and their logical function differentiation and LF positions

QP-type	Description	Logical functions and relative LF positions ⁶⁸
Interrogative QPs (WhQPs) <i>what,</i> <i>which (man)</i>	These are QPs with the [+Wh] feature which encodes the interrogative force of the QP necessary for the use of these phrases in grammatical Wh phrases, clauses and sentences.	Take scope in the Spec of the CP, where interrogative force is assumed according to [+Wh] feature being checked by Spec-Head agreement with the question operator Q.
Negative QPs (NQPs) <i>nobody,</i> <i>no (man)</i>	These QPs are categorised according to the feature [+Neg].	Take scope in the Spec of NegP, where the [+Neg] feature is checked with Spec-Head movement with the silent Neg ⁰ head.
Distributive-Universal QPs (DQPs) <i>every,</i> <i>each</i>	These QPs can only occur with singular nouns and are generally categorised according to the features [+Dist] and [+Univ].	Move to the Spec position of the Distributive-Universal category DistP, where they undergo Spec-head agreement with the Distributive-Universal head Dist ⁰ . This creates the characteristic interpretation. ⁶⁹
Counting QPs (CQPs) <i>few,</i> <i>fewer than,</i> <i>at most,</i> <i>more (students)...</i> <i>than (teachers),</i> <i>between... and ...</i>	These QPs include cardinality expressions which are built up by means of modified numerals and can make reference to decreasing and increasing amounts of quantification.	Cannot ordinarily be interpreted as specific and are therefore interpreted in their case positions and take in situ scope.
Group-denoting QPs (GQPs) Which includes: Indefinite QPs: <i>some,</i> <i>several</i> Bare numeral QPs: <i>one (student),</i> <i>three (students)</i> Definite QPs: <i>the students</i>	In general, GQPs denote groups as well as plural individuals and can have the widest scope as they have the ability to introduce group referents. GQPs also have the property of supporting collective interpretations in contexts where the definite QPs require distributive construal. Lastly indefinite and bare numeral QPs can behave like counting QPs where they have very local scope.	Have several distinct scope positions, which results in different interpretations which can be attributed to them. <ul style="list-style-type: none"> • Referential independent GQPs occupy the Spec of RefP position located above the CP and hence fulfil the function of subject of predication and have the widest scope relative to other scope-bearing elements in their clause. • (i) An indefinite or (ii) bare numeral or (iii) QPs with externally bound variable have a lower LF position of Spec of ShareP, located just below DistP. These GQPs are interpreted with dependent specific reference, ranging over individuals, whose existence is presupposed, allowing for a narrow-scope specific reading. Indefinite or bare-numeral GQPs may also take scope in their case positions where they are interpreted non-specifically, like CQPs. • Specific indefinite GQPs can occupy either the Spec of ShareP or RefP, in contrast to definite GQPs which must take scope in the Spec of RefP in the <i>that</i> clause and are scopally independent within the clause.

⁶⁸ Also see Figure 6.1 below.⁶⁹ *Every* can, however, according to Beghelli and Stowell (1997:75), occur in other LF positions.

Considering the way in which the different QPs have been categorised according to scope, Radford's universal quantifiers fall under DQPs, his existential quantifiers under indefinite QPs (as part of the GQPs), and his partitive quantifiers under DQPs. Roeper's (2007) distributive quantifiers fall under DQPs and his collective quantifiers under GQPs. Lastly, Cummins and Katsos's (2010) distinction can be incorporated under CQPs. The quantifiers included in this study are *every* (DQP), *all* and *some* (GQPs), *any* (NQP), *many*, *more* and *most* (CQPs), and *no/none* (NQPs).

6.3 The development of quantifiers in child language

The development of quantification in child language has been studied intensely, and the theoretical developments as well as the empirical studies pertaining to this development are rich and varied. Gil and Tsoulas (2013:1) state that it would "indeed be impossible and undesirable to attempt to provide an introduction to the field of quantification and its recent history and achievement in the short space available [and it] would be impossible to do so without major overlap with classic overviews in the last fifteen years or so." Accordingly, Gil and Tsoulas (2013:1-2) outline the three major phases in the study of quantification from 1970 onwards as follows:

- (i) Grand Uniformity (the 1970s and the 1980s)
Foundational work that affords a uniform treatment of initially disparate-looking phenomena: generalised quantifiers for all noun phrases, a kind-based treatment of existential and generic readings of bare plurals, etc.
- (ii) Diversity (the 1980s and the 1990s)
Dynamic semantics for definites and indefinites, choice-functional indefinites vs. other, the differential behaviour of quantifiers.
- (iii) Internal composition (from 2000 and on)
Quantifier-phrase-internal and, most recently, quantifier-word-internal compositionality.

(Gil & Tsoulas 2013:1-2)

Barner, Chow and Yang (2009) provide a comprehensive overview of the interpretation of numerals and linguistic number marking in children's language acquisition. Applicable to this study is their focus on lexical quantifiers and how these quantifiers are acquired especially by means of the characterisation of early quantifier development in English-speaking children. It is firstly and generally noted that young children assign interpretations to numerals while failing to do so to quantifiers like *some* and *all* (Noveck 2001; Papafragou & Musolino 2003; Huang, Snedeker & Spelke 2004; Hurewitz, Papafragou, Gleitman & Gelman 2006). These

studies show that children are unable to make the pragmatic inference that the meaning of *some* entails “not all”. Secondly, previous studies⁷⁰ have focused mainly on the difficulties that occur later in acquisition, especially with the pragmatics of quantifiers such as *some* and *all* as well as other subtle semantic and pragmatic distinctions that are later developing in nature.

Other studies – such as those of Donaldson and Balfour (1968), Donaldson and Wales (1970), Palermo (1973), Weiner (1974), Wannemacher and Ryan (1978) and Gathercole (1985) – investigated children’s understanding of the distinctions between *more* and *less*, whereas a study by Hanlon (1987) provides a general overview of the comprehension of *all*, *none*, *some*, *any*, *other*, *another*, *each both*, *either* and *neither*. Hanlon (1987) and a similar study, namely that of Badzinski, Cantor and Hoffner (1989), indicated that children in the wide age range of “four and older” proved to have relative success with these quantifiers.

In the first studies on quantifiers, all quantifier phenomena were considered to be linked to cognition, and the errors that children made were taken to be indicative of a deficit in their cognition (Inhelder & Piaget 1964). Roeper and Matthei (1974) however argued that the errors children made were not due to a cognitive deficit but rather to the grammatical analysis that the child made to interpret quantifiers. Quantifiers in child grammars were said to undergo quantifier spreading, where *all*, *every* and *some* were incorrectly used in two adverbial positions. In the 1970s, no mechanism existed by which this particular phenomenon could be plausible within a UG view of grammar; however, with time UG theory advanced and could be used to explain quantifier spreading. Hale (1985) and Bach, Kratzer and Partee (1995) showed that the use of adverbial quantifiers was universal whereas determiner quantification was uncommon, and spreading was thus assumed to be the linguistic default as a core property of UG (Roeper et al. 2004:3).⁷¹

Brooks and Braine (1996) examined universal quantifiers and the emergence of children’s awareness of lexical and syntactic distinctions in quantifier interpretation. This was done by looking at the correspondences between linguistic cues and salient semantic

⁷⁰ These include those of Brooks and Braine (1996), Crain and Thornton (1998), Dozd and Van Loosbroek (1998), Ferenz and Prasada (2002), Gaulmini (2003), Inhelder and Piaget (1964), Meroni, Gaulmini and Crain (2000), Neimark and Chapman (1975), Papafragou and Schwarz (2006), Philip (1996), and Stickney (2007).

⁷¹ Philip and Takahashi (1991) and Philip (1992) looked at the symmetrical interpretation of sentences where the representations of universally quantified sentences are undifferentiated in that the quantifier is not restricted to a specific NP. This research touches on the above mentioned phenomenon of quantifier spreading.

categories/representations and included (i) the collective representation, (ii) the distributive representation and (iii) the exhaustive representation. Subsequent developments of linguistic theory included the assumption about distributivity applicable to child and adult grammars. Distributivity entails that if QP_1 takes scope over an indefinite QP_2 , then QP_1 is usually understood to distribute over QP_2 , whereas if QP_1 cannot take scope over QP_2 , then distribution cannot take place (Beghelli & Stowell 1996:17-18). It thus becomes clear that distributivity falls under the general concept of ‘scope’. Other assumptions under the different scopal theories include quantifier raising (explained in the section above) as well as two other scopal judgements, namely the interaction of existential quantifiers with a variety of logical operators, and the interaction with negation and other downward-entailing operators.⁷²

Lastly, the phenomenon of floating quantifiers has received a lot of research attention⁷³ and involves the syntactic process where the quantifier in the subject position can be separated from the subject and appear in various locations in a sentence, as in *All the guests will enjoy the dessert*, *The guests all will enjoy the dessert* and *The guests will all enjoy the dessert*. Quantifier floating can only occur with quantifiers that necessitate a definite noun. In English, quantifiers other than *all*, *both*, and *each* cannot undergo quantifier floating, but this movement is possible in Afrikaans (see Oosthuizen (1989) and isiXhosa (see section 6.4.2.1).

Due to the varied nature and type of the quantifiers assessed in the present study, the following section discusses existing research findings in terms of each of the six quantifiers pertaining to this study separately (rather than per study), as each quantifier will first be analysed individually in this study before all quantifiers will be considered collectively.

6.3.1 The quantifier *every*

Roeper (2007:94) explores the notions of ‘distributivity’ and ‘collectivity’ of quantifiers by examining the relationship between *all* and *every* (where *all* is not *every*). *All* and *every* outline the manner in which one tends to refer to things in “bunches”, as Roeper (2007:94) phrases it. In the examples below, both quantifiers are used as collectives (referring to things in bunches), but they do not mean the same thing. In example (6.6), *all* refers to one

⁷² For a detailed discussion and examples of what each interaction entails, see Beghelli and Stowell (1996).

⁷³ See, for instance, Sportiche (1988), Bobaljik (1998) and Terada (2003).

collective bunch in contrast to *every* in example (6.7) which refers to single entities that, when added together, form a bunch and are distributive in nature. Generally, *every* prefers a distributive reading but allows a collective reading for certain actions (Roeper 2007:95).

6.6 *Jane ate all the raisins*

6.7 *Lucy ate every raisin*

Strauss, Pearson and Roeper (in Roeper 2007:183) found that children avoid forms with *every* for a long time. The CHILDES⁷⁴ transcripts of six children up to 4 and 5 years of age showed only 25 uses of *every*, where *every* occurred only eight times as a determiner QP. Of these eight cases, the children always incorrectly used *every* with a plural noun rather than with a singular noun (as required). It is clear from the studies mentioned in Roeper (2007:183) that children do not grasp all of the peculiar properties of *every* immediately, and the fact that children around the age of 5 years still struggle with these properties indicates that *every* is definitely later developing. Roeper (2007:184) explains that children seem to fall back on the general plural option with *every* and do not yet (at the age of 5 years) make the association that the single function is applicable. *Every* is thus commonly used as a plural, specifically a plural prefix. For instance, in *Every boy is on a bike*, *every* is used as plural marker instead of the plural *-s* suffix seen in *Boys are on bikes* (Roeper 2007:187). Philip (1995, 2004 in Roeper 2007:185) shows that this is the case for children in a range of languages, including Dutch, English, Chinese and Spanish.

DELV (see section 4.6) data show that children apply *every* to both nouns in a sentence, just as they associate the plural option with *every*. They might, for example, interpret a sentence such as *Every boy is eating cake* as meaning “Every boy is eating every cake”. *Every* is thus not used as a modifier of the noun but as a modifier of the entire sentence. Roeper, Strauss and Pearson (2004:1) indicate that this phenomenon is known as “quantifier spreading” (as briefly discussed above), where children allow a quantifier to refer to two nouns rather than one. There are two types of quantifier spreading. The first hereof is classic-spreading, where an extra object is incorporated but no overt event, as in the example, *Is every girl riding a bike?* = *no, not this bike*, where *every* modifying *girl* seems to have “spread” to modify the mentioned object *bike*, resulting in the interpretation *every bike*. The second is bunny-

⁷⁴ CHILDES is the acronym for the Child Language Data Exchange System, a corpus for language acquisition data established by MacWhinney and Snow (1985).

spreading, where there is another event but no object is referred to, as in the example *Is every rabbit eating a carrot?* = *no, not the dog and/or bone* where an analysis of the set of events, not the individuals, occurs (Roeper et al. 2004:2). Generally it is argued that there is a natural acquisition path from bunny-spreading to classic-spreading to adult grammar. This perspective disproves, firstly, Inhelder and Piaget's (1964) theory that cognition plays a central role in the acquisition of quantifiers and, secondly, the theory of language-independent child pragmatics (Crain, Thornton, Boster, Conway, Lillo-Martin & Woodams 1996). Here, the theory of grammar construction is at play, as similar work on L2 acquisition by DellaCarpini (2003) shows that adult L2 learners also allow a quantifier like *every* to refer to two nouns rather than one (i.e., quantifier spreading).

Roeper (2007:187) draws the conclusion that children might also use *every* as an adverb, like *most* which can be used as *mostly*. In this manner, *every* receives the meaning "always". Generally, children at the age of 5 years still use *every* "insecurely" (Roeper 2007:187).

The quantifier *every* also includes lexical complexity as it can occur in compounds such as *everyone* and *everywhere*. The ambiguity present with *every* pertains to collective vs. distributive interpretations thereof. For instance, *Every girl went to a show* could be interpreted as all girls going to the same show or to different shows, and if it was the same show, then it would be ambiguous as to whether they all went at the same time or at different times (Brooks & Sekerina 2005/2006:178).

6.3.2 The quantifier *all*

Roeper (2007:183) states that children use *all* before *every* because *all* carries the exact plural feature, the feature that children wrongly associate with *every* (as explained above). Studies also show that the frequency with which *all* is used in child language is much higher than that of *every*. Brooks and Braine (1996) examined the comprehension of *all* by children up to the age of 9 years. The children were presented with picture sets which should elicit the collective nature of the quantifier *all*. In one picture, a group of people are acting on a single object, and in the second picture, a single person is acting on a group of objects. Children were very successful in their responses to these pictures and provided a response including *all* (*There is a man washing all of the bears*). Here, not only the 9- to 10-year-olds performed above chance as a group but even the 4-year-olds did. These tasks were responded to better

than those assessing comprehension of the distributive nature of *every*, concurring with the findings of Roeper (2007) mentioned above.

In terms of the production of *all*, Brooks and Sekerina (2005/2006:178) show that, conventionally, it is used even when it does not imply exhaustivity (Labov 1984, 1985). They illustrate this statement with *I left all my money at home* in which *all* does not necessarily convey that literally all the person's money is at his/her home (some could be in bonds or in the bank) but that the person does not have any cash on them. Here, the quantifier *all* is thus used as an intensifier, and children use *all* in this manner since the earliest use of the quantifier. Data from the CHILDES database (MacWhinney 1995) shows that *all* is used as an adverbial intensifier in child language and child-directed-speech, for example in *It is all dirty*, *Kitty eat a apple all up* and *It's all gone*.

6.3.3 The quantifiers *some* and *many/more/most*

The majority of studies on quantifiers focused on *every* and *all*. Fewer studies examined *some* and *many/more/most*. In one such study, by Katsos (2009), typically-developing Spanish-speaking 4- to 6-year-olds were shown to understand *some* well, with approximately 93% correct task performance (almost as well as *all*). The comprehension for *most* was significantly lower at approximately 60%.

Roeper and Matthei (1974), Hurewitz, Papafragou, Gleitman and Gelman (2006), Papafragou and Musolino (2008) and Foppolo, Guasti and Chierchia (2012) also studied *some*, whereas *more* has been studied by Odic, Lidz and Halberda (2012) and *most* by Stickney (2003), Halberda, Taing and Lidz (2008) and Papafragou and Swartz (2006). Odic et al. (2012:451) found that some quantifiers, such as *many*, refer to a single dimension only in contrast to *more* which is comparative in nature and refers to numeric (*more dots*) or nonnumeric (*more goo*) entities. Odic et al. investigated (i) when children begin to comprehend that *more* refers to comparative nonnumeric entities as well as to collections of discrete objects, and (ii) what the underlying psychophysical character is of the cognitive representations children utilise to verify the interpretations of such phrases. They found that

phrases such as *more goo* and *more dots* are comprehended by children around the age of 3;3 years, which is younger than the ages of 4 to 5 years suggested by some previous studies.⁷⁵

Both the studies by Papafragou and Swartz (2006) and by Halberda et al. (2008) focused on the semantic and pragmatic properties of the scalar quantifiers *more* and *most*. Halberda et al. (2008:99) found in their study of 100 children aged 2 to 5 years that *most* was successfully comprehended by the age of 3;7 years.

Very few studies have focused on the quantifier *many*. Gathercole (1985a in Gathercole 1986:164) conducted a study on the use of *much* and *many* in combination with mass and count nouns in singular and plural form, where the wrong combination of mass and count quantifiers with singular or plural noun forms was provided (e.g., *The monster swallowed so *many boy / The monster swallowed so *much waters*). The ability to perform grammaticality judgements correctly on these types of combinations only emerged around the age of 5 years. Based on this finding, mastery for *many* is considered to occur around the age of 5 years for the purposes of the present study.

6.3.4 The quantifiers *any* and *no/none*

Negative QPs such as *any* and *no/none* have been studied as negative polarity items, where *any* has been specifically studied as a negative polarity item and a free choice item in order to explain the syntactic and semantic constraints on this quantifier in English (Huang and Crain 2013:861). *Any* is considered a negative polarity item and is assigned an existential reading, because its use is prohibited in simple positive sentences in English (e.g., **John ate any pears*) but not in negative statements (e.g., *John did not eat any pears*) (see Huang & Crain 2013:817). *Any* is also referred to as a free choice item in generic and intentional contexts where sentences contain modals (e.g., *may, can, will*) and imperatives where either a universal reading (e.g., *Any clerk can help you*) or an existential reading (e.g., *Press any key*) may be assigned (Huang & Crain 2013:817). Studies such as O’Leary (1994), O’Leary and Crain (1994), Thornton (1995) and Song (2003) have found that English-speaking children command both the distributional and interpretive properties of *any* by the age of 4 years.

⁷⁵ For a detailed description of studies on the quantifiers *many* and *more*, see Odic et al. (2012).

With the exception of Hanlon (1987), no relevant studies on the acquisition of the quantifier *no/none* could be found. Based on Hanlon, the age of acquisition for *no/none* is taken to be around the age of 4 years.

6.3.5. Concluding overview: Ages of acquisition of quantifiers

An overview of the ages at which quantifiers are acquired in Afrikaans and English is provided by Southwood and Van Dulm (2012b:60-66) who tested the comprehension and production of quantifiers amongst children from 4 and 9 years and 4 and 8 years for Afrikaans and English, respectively, with the REALt. Figure 6.2 shows the comprehension data of their study in terms of meaning and scope for Afrikaans and Figure 6.3 for English, where age at time of testing appears on the horizontal axis and scores obtained (percentage correct) on the vertical axis.

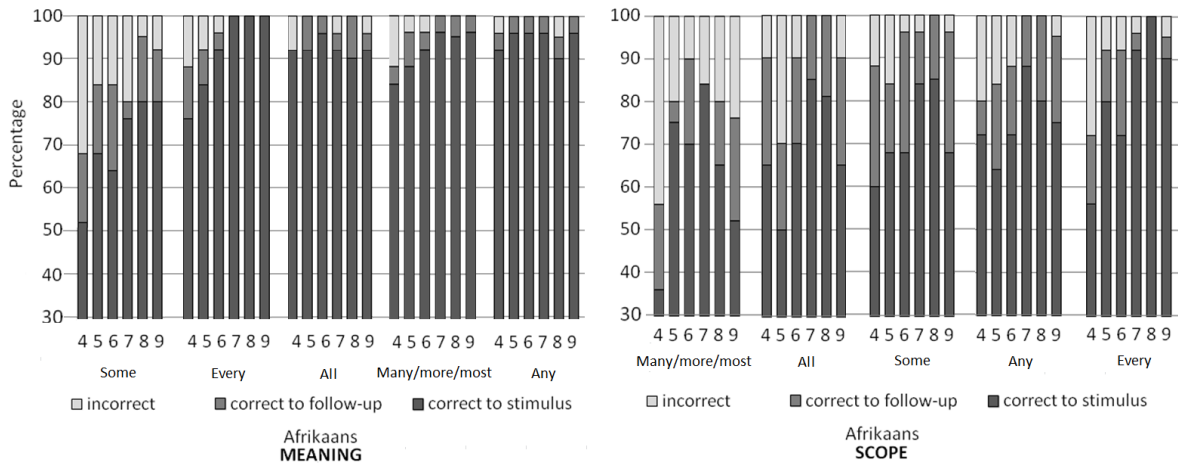


Figure 6.2. Quantifier meaning and scope comprehension for Afrikaans-speaking children (from Southwood and Van Dulm 2012b:60-66)

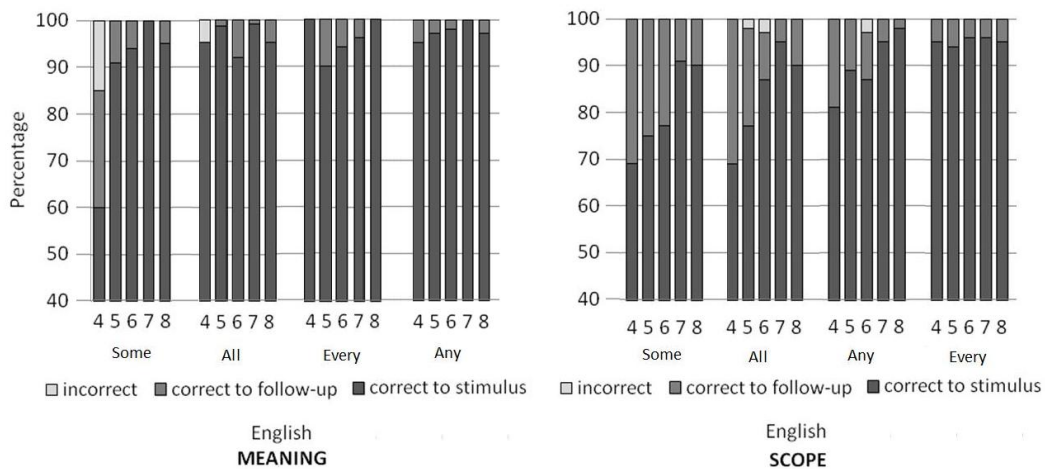


Figure 6.3. Quantifier meaning and scope comprehension by English-speaking children (from Southwood and Van Dulm 2012b:60-66)

From the above two figures, it appears that both Afrikaans- and English-speaking children fared better with meaning items than with scope items. Production data were only available for *every*, *all* and *some*, and only in Afrikaans. These data are presented below and indicate that these three quantifiers have not yet been fully acquired even at the age of 9 years. No studies on the development of quantifier comprehension or production in isiXhosa or any other Bantu language could be traced.

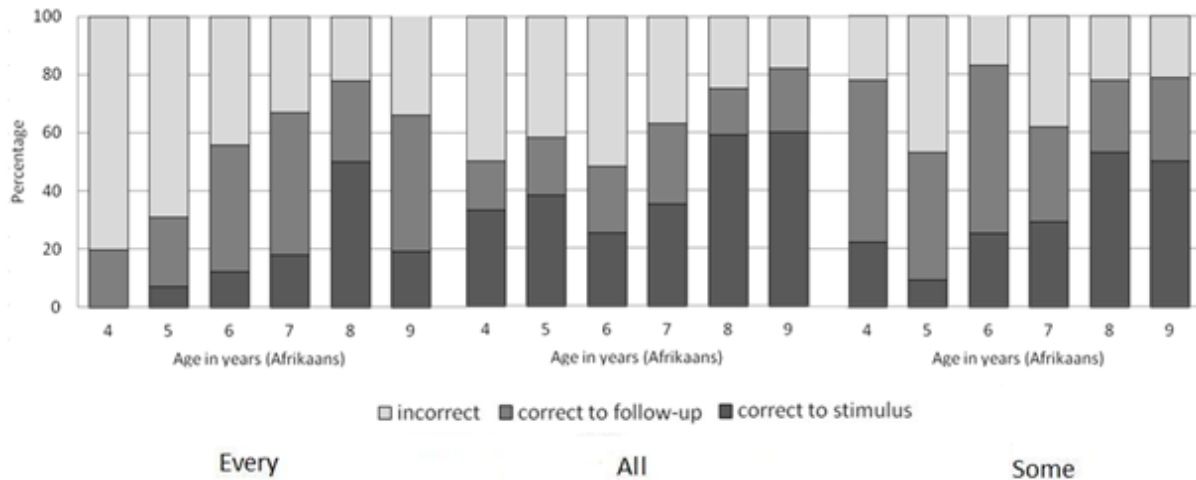


Figure 6.4. Quantifier production by Afrikaans-speaking children (Southwood and Van Dulm 2012b:60-66)

There is a dearth of literature on child L2 acquisition of quantifiers. Most studies focus on adult L2 acquisition in which the phenomenon of quantification comes up in accounts such as that of feature-assembly (Lardiere 2008) or quantifier floating (DellaCarpini 2003). Available studies focus on theoretical and psycholinguistic phenomena pertaining to UG and how these phenomena would affect child L2 developing grammars (see, e.g., Lakshmanan 1995), but very little empirical data on child L2 acquisition of quantifiers are available.

6.4 How quantifiers present themselves in English, Afrikaans and isiXhosa

According to Thomas (1965 in Karmilloff-Smith 1979:27), there are three subclasses of determiners, namely predeterminers, regular determiners and postdeterminers. Where chapter 5 on articles focuses only on the role of regular determiners, the current chapter focuses on regular determiners in terms of quantities (item number 5 listed in section 5.2 of chapter 5), referring to definite or indefinite measures, which are frequently expressed by cardinal numbers or by articles such as *several*, *a few*, *three quarts*.

This chapter also includes what Thomas (1965 in Karmiloff-Smith 1979:27) classifies as predeterminers, where predeterminers are distinguished from determiners (such as *many*) by the presence of the predeterminer morpheme *of* (as in *many of*). Quantifiers, as determiners, can either be pronominal or pronominal, where pronominal determiners occur before the noun and pronominal determiners stand on their own. Both pronominal and pronominal determiners can occur in the subject or object positions of a sentence. Each of these distinctions is outlined in the sections below for each language relevant to this study. Despite the fact that the assessment instrument (the REALt) only focuses on pronominal determiners, the sections below include examples of pronominal determiners as participants at times used pronominal determiners as responses in the production tasks. Lastly this section briefly mentions whether singular or plural noun inflection is required when specific quantifiers precede the noun, as not all quantifiers are similar in this respect.

6.4.1 Quantifiers in English and Afrikaans

In English, words which indicate the amount or quantity of an object that is referred to by the NP which it modifies include *every*, *all*, *any*, *many/more/most*, *no/none*, and *some* (to mention but a few) and are invariant forms which do not undergo any inflection.⁷⁶ The pronominal and pronominal differentiation of quantifiers in English is illustrated by examples (6.8) and (6.9), respectively (Radford 2001:41):

- 6.8 *All students are welcome / Many children were sad / You can borrow any pencil / They want some sweets / The man asks for more money*
- 6.9 *All are welcome / Many were sad / You can borrow any / They want some / The man asks for more*

However, it is important to note that not all quantifying determiners can be used both pronominally and pronominally. The English quantifier *every*, for example, can occur pronominally (as in *Every student wants to graduate*) but not pronominally (**Every wants to graduate*) (Radford 2001:41-42).

⁷⁶ The examples used in this section outline only those six quantifiers used in the study.

English prenominal quantifiers, as stated above, not only occur as single units (one word) but also have alternative *of* constructions such as *many of* or *most of*, as illustrated by examples (6.10) and (6.11) below:

6.10 *Many students* want to graduate / *Many of the students* want to graduate

6.11 *Most children* like ice-cream / *Most of the children* like ice-cream

All English quantifier determiners also have an *of* construction which is optional with nouns (see *all the meat* vs. *all of the meat*) but obligatory with pronouns (see **all it* vs. *all of it*). Quantifier determiners are also differentiated in terms of generic and specific reference. If generic reference is made, the zero article is used (as in *All men are handsome*; *Some men are handsome*) in contrast to specific reference where the definite article with or without the *of* is used (as in *All the men are handsome*; *Some of the men are handsome*).

In Afrikaans, words which indicate the amount or quantity of an object that is referred to by the NP which it modifies include *elke* ‘every’, *al die* ‘all’, *enige* ‘any’, *baie* ‘many’ / *meer* ‘more’ / *die meeste* ‘most’, *geen* ‘no/none’ and *van die/party/sommige* ‘some’ to mention but a few. The prenominal and pronominal differentiation of quantifiers which occurs in English also occurs in Afrikaans and is illustrated by examples (6.12) and (6.13) below:

6.12 *Alle studente* is welkom / *Alle kos* is duur / *Baie kinders* was hartseer / *Jy kan enige potlood* leen / *Hulle wil van die / party / sommige lekkers* hê / *Die man vra vir meer geld*
 ‘All students are welcome’ / ‘All food is expensive’ / ‘Many children were sad’ / ‘You can borrow any pencil’ / ‘They want some of the sweets’ / ‘The man asks for more money’

6.13 *Almal* is welkom / *Alles* is duur / *Baie* was hartseer / *Jy kan enige* leen / *Hulle wil sommige / party* hê / *Die man vra vir meer*
 ‘All are welcome’ / ‘All is expensive’ / ‘Many were sad’ / ‘You can borrow any’ / ‘They want some of the sweets’ / ‘The man asks for more’

Despite the fact that quantifiers in Afrikaans can occur both prenominally and pronominally as in English, the form of the quantifier in Afrikaans is not the same in all cases (in contrast to English). For example, as shown above, in Afrikaans the prenominal *al die / alle* ‘all’ changes to either *almal* (in the case of countable nouns) or *alles* (in the case of mass/uncountable nouns) when the quantifier occurs pronominally, because *al die / alle* cannot be used independently as the subject of the clause – see, for example, *Al die / alle*

studente is welkom en *Almal is welkom* versus **Al die / *alle is welkom*, as well as *Al die / alle kos is duur* and *Alles is duur* versus **Al die / *alle is duur*. *Almal / alles* is also used in the object position if it occurs pronominally. Which of the two forms (*al die / alle* versus *almal / alles*) is used is not determined by semantics but rather by the syntactic position in which the pronominal occurs (Donaldson 1993:152).

Some (of) patterns differently in Afrikaans than in English. Firstly, *some* is optionally used in English where the reference is generic (as in *They want (some) sweets*). In Afrikaans, no quantifier is used in this case, as illustrated in *Hulle wil lekkers hê* ‘They want (some) sweets’. When the Afrikaans equivalent of *some* is used as a pronominal, it can be either *sommige* or *party*. It can however also be replaced by the quantifier *van*, but *van* can never occur without either a definite article and a noun or a pronoun, as illustrated in examples (6.14) and (6.15) below, respectively.

6.14 *Hulle wil van die lekkers / van dit hê*
 ‘They want some of the sweets / some of it’

6.15 **Hulle wil van hê*
 ‘They want some’

Quantifier determiners in Afrikaans (as in English) are also further differentiated in terms of generic and specific reference. If generic reference is made, the zero article is used (see (6.16a) and (6.16b)) in contrast to specific reference where the definite article or the *van* construction and the definite article is used (see (6.17a) and (6.17b)):

6.16 a) *Alle mans is aantreklik*
 ‘All men are handsome’
 b) *Sommige mans is aantreklik*
 ‘Some men are handsome’

6.17 a) *Al die mans is aantreklik*
 ‘All the men are handsome’
 b) *Sommige van die / party / sommige mans is aantreklik*
 ‘Some of the men are handsome’

To conclude, generally quantifiers are in a “choice relation”, where one can occur but not the other. One can thus never have two quantifying determiners in a chain as is possible with adjectives (Quirk et al. 1972). The following table provides a brief overview of the different concepts explored in this section and their application for both English and Afrikaans.

Table 6.2. The application of quantifiers as determiner and predeterminer types according to pre- and pronominal subject and object positions in English and Afrikaans

Determiner		
Prenominal	In English	In Afrikaans
Subject	<i>All men eat pies</i>	<i>Alle mans eet pasteie</i>
Object	<i>She sees all men</i>	<i>Sy sien alle mans</i>
Pronominal	In English	In Afrikaans
Subject	<i>Many are happy</i>	<i>Baie is gelukkig</i>
Object	<i>She sees all</i>	<i>Sy sien alles</i>
Predeterminer		
Prenominal	In English	In Afrikaans
Subject	<i>Some of the men cried</i>	<i>(Sommige/party) van die / sommige / party mans huil</i>
Object	<i>She sees some of the men</i>	<i>Sy sien (sommige/party) van die / sommige / party mans</i>
Pronominal	In English	In Afrikaans
Subject	n/a	n/a

The following table also indicates how different English and Afrikaans quantifiers may or may not be used in conjunction with singular or with plural nouns (mass nouns, count nouns or both).

 Table 6.3. The use of English and Afrikaans quantifiers in terms of singularity and plurality⁷⁷

Quantifiers in English	Quantifiers in Afrikaans	Singular nouns	Plural nouns	
			Count nouns	Mass nouns
<i>every</i>	<i>elke</i>	+	-	-
<i>all</i>	<i>al die / alle</i>	-	+	+
<i>some</i>	<i>party / sommige</i>	-	+	+
<i>some of</i>	<i>van die / sommige van die / party van die</i>	-	+	+
<i>any</i>	<i>enige</i>	-	+	+
<i>many</i>	<i>baie</i>	-	+	-Eng / +Afr
<i>more</i>	<i>meer</i>	-	+	+
<i>most</i>	<i>(die) meeste</i>	-	+	+
<i>no / none</i>	<i>geen / g'n</i>	-	+	+

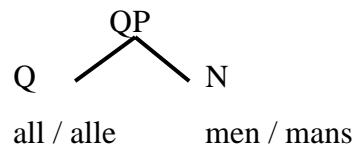
As shown in Table 6.3, the majority of the quantifiers in English and Afrikaans can be used with both count nouns and mass nouns, with the following exceptions: (i) In English and Afrikaans, *every* and *elke* ‘every’, respectively, quantify singular nouns and cannot quantify plural nouns. (ii) *Many* in English can only be used to quantify count nouns and *much* is used

⁷⁷ Note that in the next subsection, that on quantifiers in isiXhosa, no equivalent table is provided. The lack of such a table is due to the scarcity of reference in the available literature to the information in the table in the case of isiXhosa.

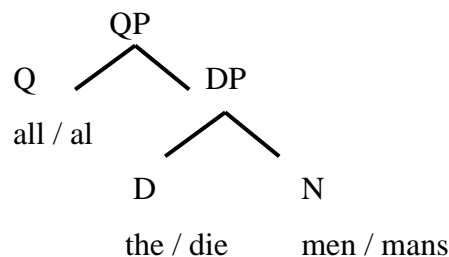
to quantify mass nouns, whereas the Afrikaans *baie* ‘many/much’ quantifies both count nouns and mass nouns.

Recall, lastly, that there is a difference between Afrikaans and English in terms of word order, as outlined in section 3.4, with Afrikaans being SOV underlyingly and English SVO. Thus the movement operations occurring in Afrikaans and English are different. However, because this chapter mainly works with the distinctions within the QP and not movement of the QP, the word order differences do not apply here.⁷⁸ The general format for the QP in the D-structure in English and Afrikaans would include three different options, shown below:

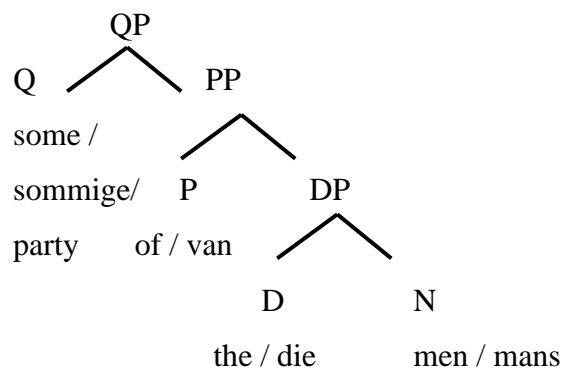
6.18 *All men / alle mans* (determiner - prenominal)



6.19 *All the men / al die mans* (predeterminer - prenominal)



6.20 *Some of the men / sommige van die / party van die mans* (predeterminer-prenominal)



⁷⁸ This distinction does however play an important role in the chapter on passive constructions, as the QP undergoes Copy and Merge movements in terms of pied-piping and the DP in passives undergoes movement due to verb- and subject raising, respectively. These movements will be treated in chapter 8.

6.4.2 Quantifiers in isiXhosa

The following table (Table 6.4) summarises the isiXhosa equivalents of the English and Afrikaans quantifiers discussed above. The isiXhosa quantifiers *-nke* ‘every / all’, *-nye* ‘some’, *-phi* ‘any’, *-ninzi* ‘many’ and *-ngaphezulu* ‘more’ have variant forms, in contrast to *inkoliso* ‘most’ and *a-* ‘no/none’ which are invariant. Some of these quantifiers will now be discussed in some detail, as far as the limited available literature on quantifiers in isiXhosa allows.

Table 6.4. Different quantifiers used in the study and their equivalents in isiXhosa

Quantifiers in English	Quantifiers in isiXhosa version of the REALt
<i>every</i>	<i>-nke / nga- + -nye</i>
<i>all</i>	<i>-nke</i>
<i>some</i>	<i>-nye</i>
<i>any</i>	<i>-phi</i>
<i>many/more/most</i>	<i>-ninzi / -ngaphezulu / inkoliso</i>
<i>no/none</i>	<i>a-</i>

6.4.2.1 The quantifier *-nke* ‘every / all’

The stem of the isiXhosa translation for English *every* and *all* as a collective is *-nke*. This quantifier is a free lexical item but has a number of different forms, depending on the noun class of the noun that it modifies. When the quantifier stem *-nke* is combined with the quantifier root *-o-* and the relevant subject agreement (according to the noun class of the noun that the quantifier modifies), the result is one of the forms in the “Derived Quantifier” column of Table 6.5 below. The absolute pronominal agreement of the quantifier stem must agree with the noun it modifies and is the same as the subject agreement morphemes on the verb, as seen in Table 6.5 below.

Table 6.5. Summary of subject agreement according to noun class and the derivation of the quantifier *-nke* in isiXhosa

Noun class number	Subject marker	Vowel elision with quantifier root <i>-o</i> ⁷⁹	Quantifier stem	Derived Quantifier
1 st person sing. 1 st person pl.	<i>ndi-</i> <i>si</i>	<i>ndo</i> <i>so</i>	<i>-nke</i>	<i>ndonke</i> <i>sonke</i>
2 nd person sing. 1 st person pl.	<i>u</i> <i>ni</i>	<i>wo</i> <i>no</i>	<i>-nke</i>	<i>wonke</i> <i>nonke</i>
1/1a	<i>u-</i>	<i>wo</i>	<i>-nke</i>	<i>wonke</i>
2/2a	<i>ba-</i>	<i>bo</i>	<i>-nke</i>	<i>bonke</i>
3	<i>u-</i>	<i>wo</i>	<i>-nke</i>	<i>wonke</i>
4	<i>i-</i>	<i>yo</i>	<i>-nke</i>	<i>yonke</i>
5	<i>li-</i>	<i>lo</i>	<i>-nke</i>	<i>lonke</i>
6	<i>a-</i>	<i>o</i>	<i>-nke</i>	<i>onke</i>
7	<i>si-</i>	<i>so</i>	<i>-nke</i>	<i>sonke</i>
8/10	<i>zi-</i>	<i>zo</i>	<i>-nke</i>	<i>zonke</i>
9	<i>i-</i>	<i>yo</i>	<i>-nke</i>	<i>yonke</i>
11	<i>lu-</i>	<i>lo</i>	<i>-nke</i>	<i>lonke</i>
14	<i>bu-</i>	<i>bo</i>	<i>-nke</i>	<i>bonke</i>
15	<i>ku-</i>	<i>ko</i>	<i>-nke</i>	<i>konke</i>

Recall that quantifiers, as determiners, can either be prenominal or pronominal in Afrikaans and English. This is also the case in isiXhosa, where the quantifier can occur in apposition⁸⁰ (see example (6.21)), be a substantive (i.e., a noun or related pronoun) (see example (6.22)) or occur in either the subject position (see example (6.23)) or object position (see example (6.24)) of a sentence (Du Plessis & Visser 1998:99). The following examples illustrate how *onke* is used as an emphatic and pronominal quantifier.⁸¹

- 6.21 *Bona bonke*
 Bo-na *bo-nke*
 SM.2-AP-them SM.2.QR-all
 ‘Them all’

In example (6.21), the two pronouns *bona* ‘them’ and *bonke* ‘all’ are placed next to each other and thus occur in apposition. In example (6.22) below, the quantifier *nonke* is used in the NP *nina*

⁷⁹ In the case of weak noun classes such as classes 1/1a and 3, the /u/ becomes /w/ and in classes 4 and 9 the /i/ becomes /y/. For the strong classes, the vowel of the subject agreement falls away so that *ba-onke* becomes *bonke* (Du Plessis 1978:70).

⁸⁰ Apposition refers to the placement next to each other of two nouns or NPs used to refer to the same entity.

⁸¹ The abbreviations used in the glosses are as follows: numeral = noun class number and agreement marker; AM = agreement morpheme; AP = absolute pronoun; ASP = aspect; CONJ = conjunction; COP = copula; FV = final vowel; IM = interrogative marker; INT = interrogative; LOC = location; NC = noun class; OM = object agreement marker; PAM = predicative adjective agreement marker; PASS = passive; PAST = past tense; PM = participial mood; POSS = possessive agreement marker; pp = person plural; POSSPRN = possessive pronoun; PREP = preposition; PPRN = personal pronoun; PRES = present tense; ps = person singular; QR = quantifier root; SM = subject agreement marker.

nonke ‘you all’ as a compound substantive pronoun in the subject position of the phrase, whereas in example (6.23), the quantifier *zonke* is used in the object position (as *everyone* is seen).

- 6.22 *Nina nonke nihabile*
Nina no-nke ni-habil-e
 AP-2.pp. SM.2.pp.QR-all NC.2.pp-walk-PAST.FV
 ‘You all have walked’
- 6.23 *Ndibona zonke*
Ndi-bon-a zo-nke
 SM.1-see-PRES.FV SM.1.QR-everyone
 ‘I see everyone’

The following example from Bryant (2007:102) illustrates the position of the quantifier before the noun (prenominal):

- 6.24 *Wonke umntu*
Wo-nke um-ntu
 SM.2.ps.QR-every NC.1-person
 ‘Every person’ (all – collective)

Du Plessis and Visser (1992:312) further explain that the subject agreement of the participial mood may be added to *onke* when it occurs in an NP, as shown in the following examples.

- 6.25 *Bonke abantu basebenza edolophini*
Bo-nke aba-ntu ba-sebenz-a e-doloph-ini
 SM.2.QR-all NC.2-people SM.2-work-PRES.FV LOC.e-town-LOC.ini
 ‘All the people work in town’
- 6.26 *Bebonke abantu basebenza edolophini*
Be-bo-nke aba-ntu ba-sebenz-a e-doloph-ini
 PM.2-SM.2.QR-all NC.2-people SM.2-work-PRES.FV LOC.e-town-LOC.ini
 ‘All the people work in town’

In example (6.26), the relevant form of subject agreement of the participial mood (according to the noun class of the noun being modified) *be-* is added to the derivation of the quantifier *bonke* ‘all’. This is also the case in example (6.27) where the relevant form of the subject agreement of the participial mood (according to the noun class of the noun being modified, in this case partitive mood) *si-* is added to the derivation of the quantifier *sonke* ‘whole/everyone’.

- 6.27 *Sisonke isizwe siya komkhulu*
Si-so-nke isi-zwe si-ya komkhulu
 PM.7-SM.7.QR-whole NC.7-nation SM.7-go (metaphorical adj. – the chief’s place)
 ‘The whole nation is going to the chief’s place’

Bryant (2007:102) states that the quantifiers formed with *-nke* can include the meaning “all”, “every” and/or “the whole”, as could also be seen in the examples above. Du Plessis and Visser (1992:313) classify *onke* as a universal quantifier which refers to all the members of a set. This quantifier (derived as shown in table 6.4) can be combined with plural nouns or mass nouns, as illustrated in the examples from Du Plessis and Visser (1992:313) below.

- 6.28 *Onke amadoda afuna imali* (plural noun)
O-nke ama-doda a-funa im-ali
 SM.6.QR-all NC.6-men SM.6-want.PRES.FV NC.9-money
 ‘All men want money’
- 6.29 *Ndibone onke amadoda* (plural noun)
Ndi-bon-e o-nke ama-doda
 SM.1ps-see-PAST.FV SM.6.QR-all SM.6-men
 ‘I have seen all men’
- 6.30 *Ndifuna imali yonke* (mass noun)
Ndi-fun-a im-ali yo-nke
 SM.1ps-want-PRES.FV NC.9-money SM.9.QR-all
 ‘I want all the money’
- 6.31 *Yonke imali ilahlekile* (mass noun)
Yo-nke im-ali i-lahlekile
 SM.9.QR-all NC.9-money SM.9-to be lost
 ‘All the money is lost’

In the above examples, the relevant derivation of the prenominal quantifier *-nke* can occur in either the subject position (as in example 6.28) or the object position (as in example 6.29) of a sentence. The quantifier can also be combined with singular nouns (see examples 6.32 and 6.33) in order to denote all the members of the set or the totality of an individual. The meaning associated with singular nouns is dependent on the position of the quantifier in the sentence. When the quantifier *onke* is used in the subject position in combination with a singular noun, it can denote both all the members of the set or the totality of an individual, as shown in examples (6.32) and (6.33), respectively.

- 6.32 *Sonke isikolo sivaliwe*
So-nke isi-kolo si-val-iw-e
 SM.7.QR-whole NC.7-school SM.7-close.PASS-PAST.FV
 ‘The whole school is closed’ / ‘All the schools are closed’
- 6.33 *Yonke inkomo ityiwe*
Yo-nke i-nkomo i-ty-iw-e
 SM.9.QR-whole NC.9-cow SM.9-eat-PASS-PAST.FV
 ‘The whole head of cattle has been eaten’ / ‘All of the cattle have been eaten’

Note, however, that by means of quantifier floating, one of the meanings is eliminated, as shown in the following example (Du Plessis & Visser 1992:313-314):

- 6.34 *Isikolo sivaliwe sonke*
Isi-kolo *si-val-iv-e* *so-nke*
 NC.7-school SM.7-close-PASS-PAST.FV SM.7.QR-whole
 ‘The school is closed as a whole’
- 6.35 *Inkomo ityiwe yonke*
I-nkomo *i-ty-iv-e* *yo-nke*
 NC.9-cow SM.9-eat-PASS-PAST.FV SM.9.QR-whole
 ‘The cow has been eaten as a whole’

By adding the subject agreement marker, as was done in example (6.36), with the participial mood, the meaning of totality can also be associated with the noun.

- 6.36 *Sisonke isikolo sivaliwe*
Si-so-nke *isi-kolo* *si-val-iv-e*
 PM.7-SM.7.QR-whole SM.7-school SM.7-close-PASS-PAST.FV
 ‘The whole school is closed’
- 6.37 *Iyonke inkomo ityiwe*
I-yo-nke *i-nkomo* *i-ty-iv-e*
 PM.9-SM.9.QR-whole NC.9-cow SM.9-eat-PASS-PAST.FV
 ‘The whole cow was eaten’

Note that certain restrictions apply when *onke* is used, one such being that the long forms of tenses fall away when *onke* modifies an NP in the object position (Du Plessis & Visser 1992:19-20).

The quantifier *every* in English can also be expressed by the quantifier form *elowo* or a combination of the adjective stem *nga-* and *-nye* in isiXhosa (Du Plessis 1978:80-81). The combination of *nga-*, the noun class and *-nye* shows the distributive meaning of the quantifier *every* in comparison to the collective meaning associated with *every* as *-nke* above. The following examples illustrate the distribute nature of *every* in isiXhosa.

- 6.38 *Isikolo ngasinye siyavuza*
Isi-kolo *nga-si-nye* *si-ya-vul-a*
 NC.7-school PREP-NC.7-one (every) SM.7-ASP-open-PRES.FV
 ‘Every school is open’
- 6.39 *Umntwana ngomnye uyadlala*
Um-ntwana *nga-um-nye* *u-ya-dlal-a*
 NC.2-child PREP-NC.2-one (every) SM.2-ASP-play-PRES.FV
 ‘Every child is playing’

- 6.40 *Umntwana uyasifuna isipho ngasinye*
Um-ntwana u-ya-si-fun-a isi-pho nga-si-nye
 NC.2-child SM.2-ASP-OM.7-want-PRES.FV NC.7-gift PREP-NC.7-one
 ‘The child wants every gift’

Because the quantifier form *-nke* is used in the isiXhosa version of the REALt and not the combinational form of *nga-*, noun class and *-nye*, the isiXhosa version of the REALt only tests the collective nature of the quantifier *every* in comparison to the distributive nature of *every* which is tested in the Afrikaans and English version of the REALt.

6.4.2.2 The quantifier *-nye* ‘some’

The quantifier *-nye* is used in the same manner as an adjective stem in terms of its agreement, is used with the predicative adjective agreement marker as the prefix of its head (the noun that it modifies), and has a low tone. The quantifier can be used for the meanings equivalent to “the other one of two”, “one” or “other” in English. When it occurs before the noun it modifies, it has the meaning of the English quantifier *some* (Du Plessis & Visser 1992:317). The derivation of the quantifier with the predicative adjective agreement marker as a prefix per noun class is shown in the table below.

Table 6.6. Summary of predicative adjective agreement according to noun class and the derivation of the quantifier *-nye* in isiXhosa

Noun class number	Predicative adjective agreement marker	Derived Quantifier
1/1a	<i>om-</i>	<i>omnye</i>
2/2a	<i>aba-</i>	<i>abanye</i>
3	<i>om-</i>	<i>omnye</i>
4	<i>emi-</i>	<i>eminye</i>
5	<i>eli-</i>	<i>elinye</i>
6	<i>ama-</i>	<i>amanye</i>
7	<i>esi-</i>	<i>esinye</i>
8	<i>ezi-</i>	<i>ezinye</i>
9	<i>en-</i>	<i>enye</i>
10	<i>ezin-</i>	<i>ezinye</i>
11	<i>olu-</i>	<i>olumye</i>
14	<i>obu-</i>	<i>obunye</i>
15	<i>oku-</i>	<i>okunye</i>

The following examples show how the quantifier *-nye* is used. In example (6.41), the quantifier precedes the noun *iintyatyambo* ‘flowers/bushes’ occurring in the object position. The quantifier receives the predicative adjective agreement of *ezi-* for noun class 10 as a prefix to the quantifier stem *-nye* to express the meaning “some”, while the possessive

agreement marker for noun class 10 (*za-*) is a preprefix on the derived noun in order to express “of the” together with the noun class prefix.

- 6.41 *Bankcenkceshele ezinye zeentyatyambo.*
Ba-nkcenkceshel-e ezi-nye za-iin-tyatyambo
 SM.2-water-PAST.FV PAM.10-some POSS.10(of)-NC.10-flowers/bushes⁸²
 ‘They watered some of the flowers/bushes’

In example (6.42), the quantifier again precedes the noun (*iindlovu* ‘elephants’), this time occurring in the subject position. The quantifier receives the predicative adjective agreement marker of *ezin-* (where the *-n-* of *ezin-* falls away when coalesced with the word-initial consonant of *nye*) for noun class 10 as a prefix to the quantifier stem *-nye* ‘some’ to express the meaning of “some”. Here the noun is not inflected with the possessive agreement marker as only “some elephants” are referred to rather than “some of the elephants”.

- 6.42 *Ezinye iindlovu zitshiza amanzi*
Ezi-nye iin-dlovu zi-tshiz-a a-manzi
 PAM.10-some NC.10-elephants SM.10-spray-PRES. NC.6-water
 ‘Some elephants are spraying water’

6.4.2.3 The quantifier *-phi* ‘any’

The quantifier *-phi* has to agree with its head by adding the low tonal agreement morpheme, as indicated in the table below.

Table 6.7. Summary of agreement morphemes according to noun class and the derivation of the quantifier *-phi* in isiXhosa

Noun class number	Agreement morpheme	Derived Quantifier
1/1a	<i>wu-</i>	<i>wu-phi</i>
2/2a	<i>ba-</i>	<i>ba-phi</i>
3	<i>wu-</i>	<i>wu-phi</i>
4	<i>yi-</i>	<i>yi-phi</i>
5	<i>li-</i>	<i>li-phi</i>
6	<i>wa-</i>	<i>wa-phi</i>
7	<i>si-</i>	<i>si-phi</i>
8/10	<i>zi-</i>	<i>zi-phi</i>
9	<i>yi-</i>	<i>yi-phi</i>
11	<i>lu-</i>	<i>lu-phi</i>
14	<i>bu-</i>	<i>bu-phi</i>
15	<i>ku-</i>	<i>ku-phi</i>

⁸² The isiXhosa equivalent of the English phrase *some of the* is expressed by means of using a possessive clitic, which is prefixed to the derived noun in order to express *some which belongs to flowers*. The possessive agreement is thus inflected on the noun as a preprefix before the noun class prefix along with the quantifier *-nye* preceding the possessive, in order to indicate that *a part which belongs to the object(s)* is referred to. The addition of the possessive agreement is however optional; when the possessive agreement is not added to the noun the isiXhosa construction is as follows in example 6.42 below.

The quantifier *-phi* however has an interrogative meaning and must thus appear with the interrogative marker *na*. If *-phi* occurs with a noun phrase, the conjunct *na* must also be included. Thus, if one wants to express the same meaning as that of the English quantifier *any* in isiXhosa, the noun must be modified and occur as a QP and not as a single quantifier, as shown in example (6.43) (Du Plessis & Visser 1992:318-319):

- 6.43 *Nawuphi na umntu*
Na-wu-phi na um-ntu
 CONJ-AM.1-any IM NC.1-person
 ‘Any person’

In example (6.43) above, the conjunct *na-* occurs first in the derivation, followed by the agreement morpheme *wu-* (chosen according to the noun class of the noun that the quantifier modifies) which is prefixed to the quantifier stem *-phi*. Lastly, this quantifier derivation occurs with the interrogative morpheme *na-* in order to create the complete QP which modifies the noun (in this case *nawuphi na* ‘any’ which modifies the noun *umntu* ‘person’).

The following examples from the REALt are derived in the manner explained directly above and show how the relevant form of the quantifier *-phi* is used with nouns of different noun classes (in these examples ((6.44) to (6.46)), the derived QP differs only in terms of the agreement morpheme inflected according to the noun class).

- 6.44 *Ingaba akhona nawuphi na amaqebengwana aneenkwenkwezi kuwo?*
Ingaba akhona a-wa-phi na ama-qebengwana
 INT OM.6-available.PRES.FV CONJ-AM.6-any IM NC.6-cookies
a-na-iin-kwenkwezi kuwo?
 SM.6-have-NC.10.stars PREP.on-PRN.3pp(‘them’)
 ‘Do any of the cookies have stars on?’

In example (6.44) the QP precedes the noun it modifies, and the agreement morpheme with which the quantifier stem *-phi* is inflected is *wa-* because the noun *amaqebengwana* ‘cookies’ is a class 6 noun. Lastly, both the conjunct and interrogative morpheme *na* are added to the quantifier to convey the meaning “any”. The same process occurs in example (6.45) with the exception that the noun *ipitsa* ‘pizza’ is a class 9 noun and thus the agreement morpheme of noun class 9 (*yi*) is used to inflect the quantifier stem *-phi*. In example (6.46), the noun *iibhaluni* is a class 10 noun and the agreement morpheme of noun class 10 (*zi*) is used to inflect the quantifier (note that the agreement morpheme is only chosen according to the noun

class to which the noun belongs and is not the same prefix as the noun class prefix added to the noun which the quantifier precedes).

- 6.45 *Ingaba uMnu. uZulu utye nayiphi na ipitsa?*
Ingaba u-Mnu. u-Zulu u-ty-e na-yi-phi na i-pitsa?
 INT NC.1a-Mr NC.1a-Zulu SM.1a-eat-PAST.FV CONJ-AM.9-any IM NC.9-pizza
 ‘Has Mr Zulu eaten any of the pizza?’
- 6.46 *Ingaba zikhona naziphi na iibhaluni ezibhlowu?*
Ingaba i-khon-a na-zi-phi na ii-bhaluni ezi-bhlowu?
 INT NC.10-available-PRES.FV CONJ-AM.10-any IM NC.10-balloon PAM.10-blue
 ‘Are there any blue balloons?’

6.4.2.4 The quantifiers *-ninzi* ‘much/many’, *-ngaphezulu* ‘more’ and *inkoliso* ‘most’

In isiXhosa, *-ninzi* ‘much/many’ is classified as both an adjective and a quantifier and not only as a quantifier as is the case for Afrikaans and English. The quantifier stem of *-ninzi* ‘many/much’ can be inflected according to the predicative adjective agreement marker (as is the case for the quantifier *-nye*) if it fulfills an adjectival function (*many elephants*) or a quantificational function where a determiner is at play (*many of the elephants*), with the noun class prefix of class 11 inflecting the quantifier stem and the possessive agreement marker inflecting the noun as a preprefix (Du Plessis 1978:78). In this case class 11 is applicable to all nouns, whether the noun falls in class 11 or not. *-ninzi* follows the noun in isiXhosa when it has an adjectival function, in contrast to Afrikaans and English in which the adjective precedes the noun. When the quantifier has a quantificational function in isiXhosa, it precedes the noun (as is the case in Afrikaans and English). The following table and example (6.47) show how the quantifier *-ninzi* is derived when it has an adjectival function, whereas the quantificational function is illustrated in example (6.48) below. Because of the plural features associated with the meanings of *-ninzi* ‘much/many’ only the plural noun class prefixes are applicable.

Table 6.8. Summary of noun class prefixes and the derivation of the quantifiers -ninzi

Noun class number	Predicative adjective agreement	Derived Quantifier (-ninzi)
1/1a	<i>om-</i>	<i>om-ninzi</i>
2/2a	<i>aba-</i>	<i>aba-ninzi</i>
3	<i>om-</i>	<i>om-ninzi</i>
4	<i>emi-</i>	<i>emi-ninzi</i>
5	<i>eli-</i>	<i>eli-ninzi</i>
6	<i>ama-</i>	<i>ama-ninzi</i>
7	<i>esi-</i>	<i>esi-ninzi</i>
8	<i>ezi-</i>	<i>ezi-ninzi</i>
9	<i>en-</i>	<i>e-nini</i>
10	<i>ezin-</i>	<i>ezi-ninzi</i>
11	<i>olu-</i>	<i>olu-ninzi</i>
14	<i>obu-</i>	<i>obu-ninzi</i>
15	<i>oku-</i>	<i>oku-ninzi</i>

The following examples from the REALt illustrate how each of these quantifiers is used in isiXhosa. The quantifier *-ninzi* ‘many’ is used with an adjectival function in example (6.47), where the quantifier follows the noun *iindlovu* ‘elephants’. In this example, the phrase *iindlovu ezininzi* is directly translated as “elephants that are many”.

- 6.47 *iindlovu ezininzi zitye*
iin-dlovu ezi-ninzi zi-tyil-e
 NC.10-elephants PAM.10-many SM.10-eat-PAST.FV
 ‘Many elephants ate’

In example (6.48), the quantifier *-ninzi* ‘many’ is used with a quantificational function, where this quantifier precedes the noun *lweepensile* ‘pencils’. In this example, *uninzi lweepensile* is directly translated as “many of the pencils”, where *-ninzi* is inflected with the class 11 noun class prefix and the noun will be inflected with the possessive agreement of noun class 11 (*lwa-*) as a preprefix to the noun class prefix (in this case noun class 10 for *pensile* (i.e., *i-*)) (this occurs due to an exception to the rule where the same noun class prefix must be applied across the quantifier and the noun).

- 6.48 *Amakhwenkwe athathe uninzi lweepensile*
*Ama-khwenkwe a-thath-e u-ninzi lwa-ii-pensile*⁸³
 NC.6-boys SM.6-take-PAST.FV NC.11-many POSS.11-of-NC.10-pencils
 ‘The boys took many of the pencils’

⁸³ *Lwa-ii-pensile* becomes *lweepensile* due to vowel coalescence which occurs between the /a/ and the /ii/.

It is also the case that *-ninzi* may be used to indicate the meaning of *most* as is illustrated in example (6.49) below. The differentiation between the meaning of *many* and *most* for *-ninzi* is based on the context in which the quantification occurs (Z. Kondowe, personal communication).

- 6.49 *Ingaba uJohn uluchebile uninzi lwengca*
Ingaba u-John u-luchebil-e -ninzi lwa-iin-gca
 INT NC.1a-John SM.1a-mow-PAST.FV NC.11-most POSS.11-of-NC.10-lawn
 ‘Has John mowed most of the lawn?’

The equivalent of the quantifier *most* in isiXhosa, *inkoliso*, is also expressed by means of an invariant adjective in contrast to *-nke*, *-nye*, *-phi*, *-ninzi* and *-ngaphezulu* discussed above. The quantifier *inkoliso* used as *most* is illustrated in example (6.50) below.

- 6.50 *Abantwana basele inkoliso yobisi*
Aba-ntwna ba-sel-e inkoliso ya-ubisi
 NC.2-children SM.2-drink-PAST.FV most POSS.6-milk
 ‘The children drank most of the milk’

In example (6.51), the quantifier *-ngaphezulu* ‘more’ has an adjectival function, with the quantifier following the noun *iincwadi* ‘books’. Here *uneecwadi ezingaphezulu* is directly translated as “ice creams that are more”. (In this case *-ninzi* can also be used to express *more*; however it depends on the context when *-ngaphezulu* is used and when *-ninzi* is used).

- 6.51 *Uneencwadi ezingaphezulu*
U-na-ii-ncwadi ezi-ngaphezulu
 SM.1a(she)-has-NC.10-books PAC.10-more
 ‘She has more books’

6.4.2.5 The quantifier *a-* ‘no/none’

Where negation such as *no/none* in English occurs by using a quantificational modifier on the noun, such negation in isiXhosa occurs on the verb. The equivalent of the quantifiers *no* and *none* in isiXhosa is expressed by means of adding the negative prefix *a-* to the verb. The following example is illustrative of how such negation occurs in isiXhosa.

- 6.52 *Andizifuna iiapile*
A-ndi-zi-fun-a ii-apile
 NEG-SM.1ps-OM.10-want-PRES.FV NC.10-apples
 ‘I want no apples’ / ‘I do not want apples’

6.4.2.6 Summary: isiXhosa quantifiers

The following table provides a brief summary of the different concepts explored in this section and their application to isiXhosa. (The predeterminer function with an equivalent of the phrase *of the* is not found in isiXhosa as isiXhosa does not make use of articles (see chapter 5)).

Table 6.9. The application of quantifiers as determiner and predeterminer types according to pre- and pronominal subject and object positions in isiXhosa

Determiner		
Prenominal	In isiXhosa	Quantifiers applicable
Subject	<i>Onke amadoda ufane imali</i> All men want money	<i>-nke, nye, -ninzi, nga- + -nye</i>
Object	<i>Ndifuna imali yonke</i> I want all the money <i>Ndibone onke amadoda</i> I have seen all men (Prenominal quantifiers can also occur after the noun and still have the same function)	<i>-nke, nye, -ninzi, -ngephezulu, inkoliso, nga- + -nye</i>
Pronominal	In isiXhosa	Quantifiers applicable
Subject	No traceable information available in the literature	n/a
Object	<i>Ndibona zonke</i> I see everyone (<i>almal</i>)	<i>-nke</i> No traceable information available in the literature for the other quantifiers

6.5 Quantifiers in the REALt: General information

The quantifier section of the REALt includes six different quantifier types.⁸⁴ These quantifier types are presented in the table below in the same way in which they are organised in the REALt and in the analysis of the data in this chapter. Each quantifier type, apart from *any* and *many/more/most*, has two sets, namely a comprehension and a production set. Each of these sets, apart from those of *no/none*, has two subsets, namely a meaning and a scope subset. These quantifiers, how they were scored, and the results for each of the three groups of learners will now be discussed.

⁸⁴ Note that superlative quantifiers are not included in the REALt as it has been shown that 11-year-olds still struggle with tasks involving these quantifiers (Cummins & Katsos 2010), and the REALt targets children of 4 to 9 years.

Table 6.10. Summary of quantifier types and sets in the REALt

Quantifier types	Subtypes	Sets	Subsets	Nr. of items
<i>every</i>	n/a	Comprehension	Meaning Scope	5 items 5 items
		Production	Meaning Scope	3 items 3 items
<i>all</i>		Comprehension	Meaning Scope	5 items 5 items
		Production	Meaning Scope	3 items 3 items
<i>some</i>		Comprehension	Meaning Scope	5 items 5 items
		Production	Meaning Scope	3 items 3 items
<i>any</i>		Comprehension	Meaning Scope	5 items 5 items
<i>many/more/ most</i>		Comprehension	Meaning Scope	6 items 6 items
<i>no/none</i>		Comprehension	Meaning	4 items
		Production	Meaning	5 items
Total				79 items

6.6 Comprehension of quantifiers

6.6.1 Types of quantifiers assessed in the comprehension set

In each of the two subsets (scope and meaning) of the quantifiers *every*, *all*, *some*, *any* and *many/more/most*, there are five or six items. *No/none* has only four items and only one subset (meaning), as no other contrasting items in terms of scope could be generated (Southwood and Van Dulm 2012b:59). The meaning items comprise *yes/no* questions and questions which require one-word responses based on a picture stimulus, whereas the scope items comprise a picture selection task similar to that found for the binding relations (chapter 7). In the picture selection task assessing comprehension, the learner is presented with a verbal stimulus to which the learner has to respond by choosing one of three pictures, namely the one that matches the stimulus. One of these pictures is the target picture, while a second picture serves as an opposer and the third as a distracter. The following (Tables 6.11 to 6.13) are examples of the different types of comprehension items based on the response required.⁸⁵

⁸⁵ Due to limitations of space, it is not possible to provide an example of each response type for each of the six quantifiers assessed. One example is thus given per response type.

Table 6.11. Example of quantifier comprehension item requiring yes/no as response (assessing meaning)

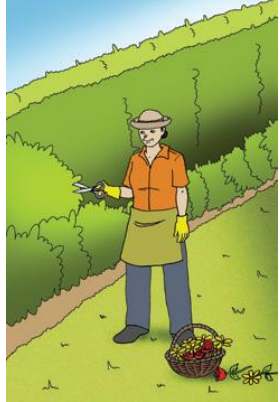
Stimulus	Response	Picture
Is every flower lying in the basket?	TARGET: No Great, that's right. We can see two flowers lying here on the ground, so we can't say that every flower is in the basket.	
	NON-TARGET: Yes	

Table 6.12. Example of quantifier comprehension item requiring a one-word answer as response (assessing meaning)





Stimulus	Response	Picture
Who has more ice creams than John?	TARGET: Thandi That's great, yes. Thandi has more ice creams than John. John has two ice creams but Thandi has four ice creams.	
	NON-TARGET: Someone besides Thandi.	

Table 6.13. Example of quantifier comprehension item requiring picture selection as response (assessing scope)

Stimulus	Response		
Show me: Mrs Martin spoke to every mother. She pointed to the chart.	Picture 1: Target	Picture 2: Mrs Martin spoke to every mother.	Picture 3: Mrs Martin spoke to every mother. The mothers pointed to the chart.
			

6.6.2 Scoring of quantifier comprehension items

For the meaning subsets, responses were scored as either correct (1) or incorrect (0). For the scope subsets, target answers were also scored with a 1, but incorrect responses were scored either as 0 (1) when the opposer was chosen in the picture selection task or as 0 (2) when the distracter was chosen. When no data were available for a learner, due to absenteeism or the test not being completed so as to not cause the learner unnecessary distress, or where the learner did not provide any response, the item was scored as (0).

6.6.3 Results: Quantifier comprehension⁸⁶

6.6.3.1 Afrikaans

The data for the Afrikaans quantifier comprehension comprise the responses of 26 participants as no data were available for one participant. The average percentage correct comprehension for each quantifier ranged from 62% to 92% for the meaning subset and from 43% and 58% for the scope subset during the first phase of testing (February/March) (see Table 6.14). During Phase 2 (October/November), the comprehension scores ranged from 51% to 94% for meaning and from 46% to 70% for scope.

In both phases, the Afrikaans participants generally fared better with the meaning subsets than with the scope subsets. For Phase 1, this is the case for all five quantifiers, whereas for Phase 2 it held true for four of the five quantifiers. The quantifier *van die/party/sommige* ‘some’ was the exception here, but this is also the quantifier for which the difference between the meaning score and the scope score was the smallest (51% vs. 60%). A comparison of the scores for Phase 1 versus Phase 2 shows the following: The scores for the meaning subsets of *elke* ‘every’ showed a slight increase in contrast to those for *al die* ‘all (the)’ and *geen* ‘no/none’ which remained almost the same and those for *van die/party/sommige* ‘some’, *enige* ‘any’ and *baie/meer/die meeste* ‘many/more/most’ which decreased slightly. In Phase 2, the scores for the scope subsets of all the quantifiers improved, with the exception of *baie/meer/die meeste* ‘many/more/most’ which remained the same (see Table 6.14).

⁸⁶ Error analysis, as done in terms of the comprehension set of articles (chapter 5), was not included for quantifiers as no pattern was evident in the analysis between opposer and distracter responses.

Based on the average percentages correct for the meaning subset, the order in terms of highest to lowest score obtained in Phase 1 is *geen* ‘no/none’, *enige* ‘any’, *al die* ‘all (the)’, *elke* ‘every’, *baie/meer/die meeste* ‘many/more/most’ and *van die/party/sommige* ‘some’. For the scope subset, it is *baie/meer/meeste* ‘many/more/most’, *elke* ‘every’, *van die/party/sommige* ‘some’, *enige* ‘any’ and *al die* ‘all (the)’. Based on the results of a Wilcoxon Matched Pairs Test and the Box and Whiskers plots (see Table 6.14), *elke* ‘every’ is the only quantifier which showed a statistically significant increase in average scores from Phase 1 to Phase 2, and it did so for both the meaning and the scope subsets. The quantifier *geen* ‘no/none’ showed an increase in average scores but not significantly so; this quantifier was however already mastered at the start of Gr 1, as the average percentage correct was above 90% then. In terms of scope subsets, there was an increase in average percentage correct from Phase 1 to Phase 2 for all quantifiers, but this increase was only statistically significant for *elke* ‘every’. No quantifiers other than *geen* ‘no/none’ were fully acquired by the end of Gr 1, as none of the other average percentages were above 90.

Table 6.14. Comparison of Afrikaans comprehension Phase 1 and Phase 2 descriptive statistics for all quantifiers assessed by the REALt (in percentage)

Variable	Afrikaans - Phase 1 Descriptive Statistics Comprehension				Afrikaans - Phase 2 Descriptive Statistics Comprehension				Phase 1 vs. 2 (Wilcoxon Matched Pairs Test; direction as indicated by Box and Whiskers plots)	
	Mean	Min	Max	Std. dev.	Mean	Min	Max	Std. dev.	p-value for comparison of Afrikaans Phases 1 and 2	% difference between mean scores
Meaning of <i>elke</i> ‘every’	66	20	100	0.270	78	40	100	0.199	0.0176	+12
Scope of <i>elke</i> ‘every’	55	0	100	0.261	70	20	100	0.181	0.0329	+15
Meaning of <i>al die</i> ‘all’	77	0	100	0.224	78	40	100	0.173	0.7174	+1
Scope of <i>al die</i> ‘all’	43	0	80	0.231	46	0	80	0.202	0.9306	+3
Meaning of <i>van die/party/sommige</i> ‘some’	62	20	100	0.235	51	20	100	0.190	0.0520	-9
Scope of <i>van die/party/sommige</i> ‘some’	48	0	100	0.253	60	20	100	0.247	0.0545	+12
Meaning of <i>enige</i> ‘any’	82	20	100	0.239	75	40	100	0.242	0.4042	-7
Scope of <i>enige</i> ‘any’	48	0	100	0.220	52	20	80	0.180	0.4631	+4
Meaning of <i>baie/meer/die meeste</i> ‘many/more/most’	65	33	100	0.166	63	33	100	0.151	0.6378	-2
Scope of <i>baie/meer/die meeste</i> ‘many/more/most’	58	33	83	0.172	58	17	100	0.201	0.8960	0
Meaning of <i>geen</i> ‘no/none’	92	25	100	0.170	94	75	100	0.107	0.5002	+2
Comprehension TOTAL Score	63	43	86	0.097	65	50	82	0.078	0.1500	+2

6.6.3.2 English

The data for English quantifier comprehension are made up of 30 participants' responses as no data were available for one participant. The average percentage correct for Phase 1 ranged from 43% to 61% for the meaning subset and from 32% to 49% for the scope subset (with the exception of *no/none* for which the average percentage was 76%; see Table 6.15). The average percentage for the scope subset was thus lower than that for the meaning subset. This pattern repeated itself in Phase 2 (with the exception of *every* for which the meaning and scope scores were both 67%).

Table 6.15. Comparison of English comprehension Phase 1 and Phase 2 descriptive statistics for all quantifiers assessed by the REALt (in percentage)

Variable	English - Phase 1 Descriptive Statistics Comprehension				English - Phase 2 Descriptive Statistics Comprehension				Phase 1 vs. 2 (Wilcoxon Matched Pairs Test; direction as indicated by Box and Whiskers plots)	
	Mean	Min	Max	Std. dev.	Mean	Min	Max	Std. dev.	p-value for comparison of English Phases 1 and 2	% difference between mean scores
Meaning of <i>every</i>	47	0	100	0.308	67	20	100	0.304	0.0024	+20
Scope of <i>every</i>	41	0	80	0.203	67	20	100	0.254	0.0005	+26
Meaning of <i>all</i>	47	0	100	0.330	79	20	100	0.265	0.0003	+32
Scope of <i>all</i>	49	0	100	0.261	57	20	100	0.256	0.0696	+8
Meaning of <i>some</i>	55	0	100	0.233	55	20	100	0.221	0.7701	0
Scope of <i>some</i>	40	0	80	0.235	49	0	100	0.227	0.1419	+9
Meaning of <i>any</i>	61	0	100	0.285	71	20	100	0.256	0.0440	+10
Scope of <i>any</i>	32	0	80	0.238	45	20	100	0.227	0.0514	+13
Meaning of <i>many/more/most</i>	43	0	83	0.282	66	17	100	0.183	0.0017	+23
Scope of <i>many/more/most</i>	37	0	83	0.221	57	17	100	0.194	0.0003	+20
Meaning of <i>no/none</i>	76	0	100	0.318	97	50	100	0.109	0.0052	+21
Comprehension TOTAL Score	47	2	75	0.175	64	45	96	0.127	0.0000	+17

Based on the average percentages for the meaning subset, the order in terms of highest to lowest score obtained in Phase 2 is *no/none*, *all*, *any*, *every*, *many/more/most* and *some*, and for the scope subset it is *every*, *many/more/most*, *all*, *some*, and *any*.⁸⁷ Wilcoxon Matched Pairs Test and the Box and Whiskers plots (Table 6.15) indicated that *every* and

⁸⁷ In the Afrikaans results, the order of quantifiers from highest to lowest score was given according to Phase 1 because the scores obtained in Phase 1 were generally higher than in Phase 2. For the English results, the order of quantifiers from highest to lowest score are given according to Phase 2, because there is an overall trend of development with Phase 2 scores being higher than those of Phase 1.

many/more/most showed a statistically significant increase in the meaning and scope subset scores. All quantifiers in the meaning subset, with the exception of *some*, showed a statistically significant increase. Despite the significant increase for the meaning subset, meaning of these quantifiers was not fully acquired by the end of Gr 1, with the exception of *no/none* which developed to the extent of 97% in Phase 2. The remaining quantifiers in the scope subset did not show a statistically significant improvement despite the increase in average percentages shown in the table above. None of the quantifiers in the scope subset was acquired fully at the end of Gr 1, i.e., none of them had an average percentage of 90 or higher.

6.6.3.3 isiXhosa

For the isiXhosa comprehension set of quantifiers, five quantifiers were tested in two subsets (meaning and scope) and one (namely *none*)⁸⁸ in one subset (i.e., meaning only), as was the case for Afrikaans and English. The average percentage correct ranged from 81% to 96% for the meaning subset and from 81% to 91% for the scope subset in Phase 1 (see Table 6.16). In this phase, the participants fared better with the meaning than with the scope subset for *all*, *any*, *many/more/most* and *no/none*, whereas the two scores (meaning and scope) were identical (or almost identical) for *every*⁸⁹ and *some*. However, the pattern is less straightforward in Phase 2: The average percentage correct ranged from 81% to 100% for the meaning subset and from 72% to 88% for the scope subset. What is similar in the two phases is that the participants fared better on the meaning than on the scope subsets for *all*, *any*, *many/more/most* and *no/none*. What changed in Phase 2 is that the meaning and the scope percentages for *every* were the same, and the meaning percentage of *some* was higher than the scope percentage. The percentages for the scope subsets also decreased slightly for all five quantifiers in comparison to the percentages obtained in Phase 1. In Phase 2, the average percentages of the meaning subsets for *many/more/most* and *every* decreased slightly, the percentages for *some* and *any* remained stable, and those for *no/none* increased for meaning and scope, whereas for *all* the meaning increased but the scope decreased.

⁸⁸ Due to the fact that isiXhosa quantifiers have variable forms for each quantifier type analysed in the data and for ease of reading, the quantifiers will be referred to according to the English equivalent for the remainder of this chapter.

⁸⁹ Recall from section 6.4.2.1 that because the quantifier form *-nke* is used in the isiXhosa version of the REALt and not the combinational form of *nga-*, noun class and *-nye*, the isiXhosa version of the REALt only tests the collective nature of the quantifier *every* in comparison to the distributive nature of *every* which is tested in the Afrikaans and English version of the REALt.

According to the Wilcoxon Matched Pairs Test (see Table 6.16), the above mentioned increases and decreases in average percentages were not statistically significant. The meaning subsets of *no/none* and *any* were mastered at the start of Gr 1 with a further increase towards the end of Gr 1. The meaning subset of *all* was fully acquired at the end of Gr 1, as the average percentage increased from 89% to 95% from Phase 1 to Phase 2. The meaning subset of *every* was exactly 90% at the start of Gr 1 but decreased slightly to 88% at the end of Gr 1. This quantifier is thus almost fully acquired during Gr 1. The remaining quantifiers in the meaning subset have very high average percentages and are almost fully acquired by the end of Gr 1.

Table 6.16. Comparison of isiXhosa comprehension Phase 1 and Phase 2 descriptive statistics for all quantifiers assessed by the REALt (in percentage)

Variable	isiXhosa - Phase 1 Descriptive Statistics Comprehension				isiXhosa - Phase 2 Descriptive Statistics Comprehension				Phase 1 vs. 2 (Wilcoxon Matched Pairs Test; direction as indicated by Box and Whiskers plots)	
	Mean	Min	Max	Std. dev.	Mean	Min	Max	Std. dev.	p-value for comparison of isiXhosa Phases 1 and 2	% difference between mean scores
Meaning <i>every</i>	90	20	100	0.199	88	20	100	0.191	0.6982	-2
Scope of <i>every</i>	91	40	100	0.162	88	40	100	0.169	0.5137	-3
Meaning of <i>all</i>	89	40	100	0.218	95	40	100	0.146	0.2213	+6
Scope of <i>all</i>	85	20	100	0.251	72	40	100	0.211	0.0538	-13
Meaning of <i>some</i>	81	40	100	0.121	81	40	100	0.197	0.2735	0
Scope of <i>some</i>	81	20	100	0.216	76	20	100	0.250	0.5503	-5
Meaning of <i>any</i>	94	40	100	0.140	95	20	100	0.152	0.6002	+1
Scope of <i>any</i>	81	0	100	0.294	73	0	100	0.251	0.3385	-8
Meaning of <i>many/more/most</i>	88	17	100	0.219	86	33	100	0.183	0.9176	-2
Scope of <i>many/more/most</i>	85	17	100	0.237	80	33	100	0.208	0.3570	-5
Meaning of <i>no/none</i>	96	0	100	0.184	100	100	100	0.000	0.1797	+4
Comprehension TOTAL Score	87	46	100	0.156	85	61	100	0.108	0.2943	-2

The scope subset of quantifiers shows the same high percentages but all of them decreased slightly from Phase 1 to Phase 2. This decrease was not statistically significant; however, the percentages were still below 90% and thus the scores for the scope subset of all the quantifiers are not as high as those for the meaning subset, and none of them was fully acquired by the end of Gr 1. Based on the average percentages for the meaning subset per


quantifier, the order in terms of highest to lowest is *no/none*, *any*, *every*, *all*, *many/more/most* and *some*, and for the scope subset *every*, *many/more/most*, *some*, *any* and *all*.⁹⁰

6.7 Production of quantifiers

6.7.1 Types of quantifiers assessed in the production set


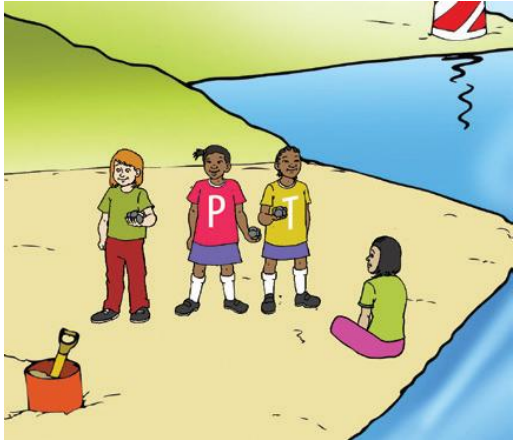
The assessment of quantifier production entailed only *every*, *all*, *some* and *no/none*, as appropriate picture material could not be generated for the remaining quantifiers (Southwood & Van Dulm 2012b:60). The first three each have six items testing production, in which the first three items of the subset assess the meaning and the last three the scope of these quantifiers. The scope items for *every* differ in format from the meaning items, in that there are two parts to each *every* scope item, namely an (a)-part in which the picture and verbal stimulus together with the follow-up (if the latter is needed) aim to elicit a response containing a quantifier with a specific scope, and a (b)-part which aims to elicit the same quantifier but with contrasting scope. The quantifier *no/none* has only five items in the subset. These five items focus on assessing the meaning of the quantifiers by means of questions based on a picture stimulus. Three examples of production items are given below.

Table 6.17. Example of quantifier production item requiring question answering (assessing meaning)

Stimulus	Response	Follow-up	Picture
Look at Mrs Zulu decorating cookies in the kitchen. Where did she put the silver stars?	TARGET: (She put a star) on every cookie.	Excellent, every cookie has a silver star.	
	NON-TARGET QUANTIFIER: On all the cookies.	Great, but can you use the word <i>every</i> in that sentence?	
	NO QUANTIFIER: On the cookies.	Yes, that's good. Did she put stars on just a few of the cookies or on every cookie?	

⁹⁰ Recall that (i) in the Afrikaans results, the order of quantifiers from highest to lowest scores was given according to Phase 1 because the scores obtained in Phase 1 were generally higher than in Phase 2 and (ii) for the English results, the order was given according to Phase 2 because there was an overall trend of development where Phase 2 scores were higher than Phase 1 scores. For isiXhosa, these results are given according to Phase 1 for the same reason as in the case of Afrikaans mentioned above.

Table 6.18. Example of quantifier production item requiring picture description (assessing scope)

Stimulus	Response	Follow-up	Pictures
Tell me what happened in this picture.	TARGET: Every girl picked up stones.	Yes, well done. Every girl picked up stones.	
	NON-TARGET QUANTIFIER: All the girls picked up stones.	Good, but can you use the word <i>every</i> in that sentence?	
	NO QUANTIFIER: The girls picked up stones.	Yes, but tell me, did only one or two of the girls pick up stones?	
Now let's look at these pictures. The girls are at the beach picking up stones again. But now Debbie is not picking up stones; she is just watching the other girls. But look here – the other girls have done such a good job that there are no stones left on the sand. So tell me what has happened here.	TARGET: The girls picked up every stone.	Well done, the girls picked up every stone.	
	NON-TARGET QUANTIFIER: The girls picked up all the stones.	Yes, but can you use the word <i>every</i> in that sentence?	
	NO QUANTIFIER: The girls picked up stones.	Yes, but tell me, did the girls pick up every stone or just a few of the stones?	

6.7.2 Scoring of quantifier production items

In the production task, the answer was taken to be either correct or incorrect. The scoring for this type of item was thus done by scoring the target answer with a (1) and a non-target or wrong response with a (0). If the response to the stimulus was incorrect and also that to the follow-up, the whole item was scored as incorrect (i.e., (0) was awarded to the response). However, if the response to the stimulus was incorrect and that to the follow-up correct, the whole item was scored as correct (with (1) being awarded). The following tables provide a list and examples of the different non-target responses provided by the participants for each of the four quantifier types assessed in the production set.⁹¹ Note that these error categories were not predetermined but were set up after examination of the data.

⁹¹ In tables 6.19 to 6.22 the abbreviation *n/a* indicates that this type of error was not made by the language group in question, while the √ indicates that the type of error was made in the data but there are no examples available

Table 6.19. Non-target error analysis examples of the quantifier type every in the production set

<i>Every</i>			
Type of non-target response	Examples from Afrikaans	Examples from English	Examples from isiXhosa
Non-target pronominal quantifier	<i>al die</i> ‘all the’ <i>al drie</i> ‘all three’ <i>alle</i> ‘all’ <i>net</i> ‘only’ <i>van die</i> ‘some’ <i>‘n paar van die</i> ‘some of the’	<i>all of them</i> <i>all the boys</i>	<i>zilele ezinye izinja</i> ‘some dogs are sleeping’ <i>onke amantombazana</i> ‘all the girls’
Non-target pronominal quantifier	<i>alles</i> ‘everything / all’ <i>almal</i> ‘everyone’	n/a	n/a
Non-target pronominal quantifier (ungrammatical)	<i>niks</i> ‘nothing’	n/a	n/a
Cardinal number	<i>drie</i> ‘three’ <i>vier</i> ‘four’	<i>(on) one</i>	n/a
Description	<i>klomp</i> ‘lots of’ <i>niks meer nie</i> ‘nothing more’ <i>nie nog nie</i> ‘not more’ <i>leeg</i> ‘empty’	<i>not finished</i> <i>this one has nothing</i>	<i>abantwana badlala nga matye</i> ‘the kids are playing with the stones’
Target quantifier not applied to any noun	√	√	√
Target quantifier applied to wrong noun	√	√	√
No quantifier	√	√	√
Completely irrelevant response	<i>ja</i> ‘yes’	<i>no</i> <i>yes</i> <i>is coming</i> <i>picking up</i>	<i>badlala ngesanti</i> ‘play with the sand’
Article instead of a quantifier	n/a	<i>on the biscuit</i> <i>in the pan</i> <i>on the cookie</i> <i>they finished the balls</i>	distinction n/a

to illustrate the error type (such as no responses) or because the the quantifier differs for each item in the assessment the scope of the chapter does not allow for an item-by-item error analysis.

Table 6.20. Non-target error analysis examples of the quantifier type all in the production set

<i>All</i>			
Type of non-target response	Examples from Afrikaans	Examples from English	Examples from isiXhosa
Non-target prenominal quantifier	<i>elke</i> 'every' <i>'n paar</i> 'some' <i>van die</i> 'some of'	<i>some of them</i> <i>every flower</i>	n/a
Target prenominal quantifier not applied to any noun	<i>alles</i> 'everything'	n/a	<i>usika onke</i> 'picking / cutting all'
Relevant pronominal quantifier (ungrammatical)	<i>almal</i> 'everyone'	n/a	n/a
Target quantifier applied to wrong noun	√	n/a	n/a
No quantifier	√	√	√
Non target quantifier not applied to any noun	<i>'n paar</i> 'a few'	n/a	n/a
Completely irrelevant response	<i>ja</i> 'yes'	<i>yes</i> <i>sitting down</i> <i>on sticks again</i>	<i>indlovu iyancolisa</i> 'Elephant is making a mess'
Article instead of a quantifier	n/a	<i>take the blocks</i> <i>took the toys</i>	n/a
Description / circumlocution	n/a	<i>Finished</i>	n/a

Table 6.21. Non-target error analysis examples of the quantifier type no/none in the production set

<i>No/none</i>			
Type of non-target response	Examples from Afrikaans	Examples from English	Examples from isiXhosa
Non-target prenominal quantifier	<i>net een</i> 'only one'	n/a	n/a
Relevant pronominal quantifier (ungrammatical)	<i>niemand</i> 'nobody' <i>niks</i> 'nothing'	<i>nothing</i> <i>no one</i> <i>no body</i> <i>anyone</i> <i>anything</i> <i>any</i>	n/a
Non-target prenominal quantifier (ungrammatical)	n/a	n/a	n/a
Relevant pronominal quantifier (ungrammatical) and negation	<i>niemand nie</i> 'no one not' <i>niks nie</i> 'nothing not' <i>nog niks nie</i> 'nothing yet'	<i>there is no one</i> <i>not anything</i>	n/a
Cardinal number	<i>nul</i> 'zero' <i>een</i> 'one' <i>ses</i> 'six'	<i>two</i> <i>five</i>	n/a
Incorrect description	<i>klomp</i> 'lots'	n/a	n/a
Circumlocution with negation	<i>daar is nie</i> 'there isn't any'	<i>don't see anyone</i> <i>I don't see red</i> <i>not caught a fish</i> <i>not there</i>	n/a
Completely irrelevant response	n/a	<i>yes / no</i> <i>in line</i> <i>there are shoes</i>	<i>ewe</i> 'yes'
No quantifier	n/a	n/a	√

Table 6.22. Non-target error analysis examples of the quantifier type some in the production set

<i>Some</i>			
Type of non-target response	Examples from Afrikaans	Examples from English	Examples from isiXhosa
Non-target prenominal quantifier	<i>net</i> ‘only’ <i>al die</i> ‘all the’ <i>net van die paar</i> ‘only some of these few’	<i>all the grapes</i>	n/a
Non-target pronominal quantifier	<i>alles</i> ‘everything’ <i>almal</i> ‘everyone’ <i>van hulle</i> ‘some of them’	<i>everything</i> <i>nothing</i>	n/a
Cardinal number	<i>drie</i> ‘three’ <i>een</i> ‘one’	<i>one</i>	n/a
Description	<i>‘n bietjie</i> ‘a little bit’ <i>‘n stukkie</i> ‘a piece’ <i>‘n takkie</i> ‘a stick’	n/a	n/a
No quantifier	√	√	√
Target quantifier not applied to any noun	√	n/a	n/a
Target quantifier applied to wrong noun	√	n/a	n/a
Circumlocutions with negation	<i>behalwe hulle twee</i> ‘except these two’ <i>het net die</i> ‘have only these’ <i>het nie al die ... nie</i> ‘do not have all this’	<i>no not all</i> <i>not asking for all</i> <i>this one does not have crabs</i> <i>crabs are not on everyone</i> <i>this elephant not playing with water another one is</i>	<i>umntana omnye akanaye unonkala</i> ‘the other child doesn’t have a crab’ <i>abancencesheli bonke</i> ‘they are not watering all’
Completely irrelevant response	<i>nee</i> ‘no’ <i>sy was vol al</i> ‘she was already full’	<i>yes</i> <i>no</i> <i>it is this one</i> <i>eating</i> <i>Pam is standing</i>	<i>Bahamba ngenyawo</i> ‘walking barefoot’ <i>abantwana bamile apha</i> ‘the children are standing here’, <i>uPam ume ecaleni udlala ngomsundululu</i> ‘Pam is standing at the side and playing with the millipede’
Article instead of a quantifier	n/a	<i>the tree</i> <i>on the cow</i> <i>the flowers</i>	n/a

In the Afrikaans group, the majority of the errors entailed the use of the incorrect quantifier and the use of no quantifier. The majority of the errors made by the English group however involved no quantifier, the use of definite articles instead of a quantifier, circumlocutions with negation or a description of the picture which was irrelevant. The isiXhosa group barely had any recordable errors. Their errors mostly consisted of responses with no quantifier, circumlocutions with negation, the noun instead of the pronoun, and description of the pictures which were not relevant and completely irrelevant responses. There were very few instances of no responses.

6.7.3 Results: Quantifier production

6.7.3.1 Afrikaans

For the Afrikaans production set of quantifiers, three quantifiers were tested in two subsets (i.e., for meaning and scope) while *geen* ‘no/none’ was tested only in the meaning subset. (Recall that *geen* ‘no/none’ does not have a scope subset – see Table 6.23). The data for the Afrikaans quantifier types and production set is made up of 24 participants’ responses; no data were available for three participants. The average percentage correct in Phase 1 was between 47% and 85% for the meaning subset and between 53% and 65% for the scope subset (see Table 6.23). Participants thus fared better on the meaning subset than on the scope subset in Phase 1. In Phase 2, this pattern was also evident: The average percentage correct was between 67% and 94% for the meaning subset and between 62% and 77% for the scope subset. The scores from Phase 1 to Phase 2 for the meaning subsets of all the quantifiers showed a slight increase, with the exception of *elke* ‘every’ which remained the same. In Phase 2, the scores for the scope subsets of all the quantifiers improved.

Elke ‘every’ is the only quantifier which did not show any increase in average scores for the meaning subset; all other quantifiers showed an increase in scores from Phase 1 to Phase 2, but none of these increases were statistically significant. Nothing other than the meaning of *al die* ‘all (the)’ was fully acquired at the end of Gr 1 as none of the other average percentages were above 90. According to the average percentages for the meaning subset per quantifier, the order in terms of highest to lowest score obtained in Phase 2 is *al die* ‘all (the)’, *elke* ‘every’, *van die/party/sommige* ‘some’ and *geen* ‘no/none’; for the scope subset, it is *al die* ‘all (the)’, *van die/party/sommige* ‘some’ and *elke* ‘every’.

Table 6.23. Comparison of Afrikaans production Phase 1 and Phase 2 descriptive statistics for all quantifiers assessed by the REALt (in percentage)

Variable	Afrikaans - Phase 1 Descriptive Statistics Production				Afrikaans - Phase 2 Descriptive Statistics Production				Phase 1 vs. 2 (Wilcoxon Matched Pairs Test; direction as indicated by Box and Whiskers plots)	
	Mean	Min	Max	Std. dev.	Mean	Min	Max	Std. dev.	p-value for comparison of Afrikaans Phases 1 and 2	% difference between mean scores
Meaning of <i>elke</i> 'every'	74	20	100	0.273	74	20	100	0.280	0.7782	0
Scope of <i>elke</i> 'every'	56	0	100	0.396	62	0	100	0.271	0.6265	+6
Meaning of <i>al die</i> 'all (the)'	85	33	100	0.196	94	67	100	0.127	0.0844	+9
Scope of <i>al die</i> 'all (the)'	65	17	100	0.307	77	33	100	0.240	0.1485	+12
Meaning of <i>van die/ party/sommige</i> 'some'	64	0	100	0.380	71	33	100	0.266	0.4209	+7
Scope of <i>van die/party/ sommige</i> 'some'	53	0	100	0.416	65	0	100	0.331	0.3219	+12
Meaning of <i>geen</i> 'no/ none'	47	0	100	0.467	67	0	100	0.376	0.1313	+20
Production TOTAL Score	62	25	100	0.290	71	25	94	0.195	0.2541	+9

6.7.3.2 English

The meaning and scope of three different quantifiers were tested in English, whereas only the meaning of *no/none* was tested. The data for the English quantifier types and production set are made up of 30 participants' responses; no data were available for one participant. The average percentage correct in Phase 1 ranged from 23% to 56% for the meaning subset and from 29% to 38% for the scope subset (see Table 6.24). Participants fared better on the meaning than on the scope subset in Phase 1, with the exception of *some* for which the score for scope was higher than that for meaning (though only by 3%). In Phase 2, this pattern changed slightly: The average percentage correct was between 36% and 88% for the meaning subset and between 42% and 56% for the scope subset. In Phase 2, the meaning subset scores were higher than those of the scope subset for all quantifiers. The scores for the meaning and the scope subsets of all the quantifiers showed an increased from Phase 1 to Phase 2.

Table 6.24. Comparison of English production Phase 1 and Phase 2 descriptive statistics for all quantifiers assessed by the REALt (in percentage)

Variable	English - Phase 1 Descriptive Stats Production				English - Phase 2 Descriptive Stats Production				Phase 1 vs. 2 (Wilcoxon Matched Pairs Test; direction as indicated by Box and Whiskers plots)	
	Mean	Min	Max	Std. dev.	Mean	Min	Max	Std. dev.	p-value for comparison of English Phases 1 and 2	% difference between mean scores
Meaning of <i>every</i>	36	0	100	0.334	55	0	100	0.292	0.0144	+19
Scope of <i>every</i>	29	0	100	0.318	42	0	100	0.360	0.1045	+13
Meaning of <i>all</i>	56	0	100	0.441	88	0	100	0.239	0.0013	+32
Scope of <i>all</i>	38	0	100	0.372	56	17	100	0.275	0.0088	+18
Meaning of <i>some</i>	31	0	100	0.391	63	0	100	0.354	0.0008	+32
Scope of <i>some</i>	34	0	100	0.408	45	0	100	0.364	0.1336	+11
Meaning of <i>no/none</i>	23	0	100	0.324	36	0	100	0.380	0.1213	+13
Production TOTAL Score	35	0	100	0.307	53	9	100	0.237	0.0051	+18

The Wilcoxon Matched Pairs Test and the Box and Whiskers plots (Table 6.24) indicate that all the quantifiers showed an increase in scores from Phase 1 to Phase 2, but not all the increases were statistically significant. For the meaning subset of *every*, *all* and *some*, there was a statistically significant increase but not for *no/none*. For the scope subset, only the quantifier *all* showed a significant increase. No quantifiers were fully acquired at the end of Gr 1, as none of the average percentages were above 90. According to the average percentages for the meaning subset per quantifier, the order in terms of highest score to lowest score obtained in Phase 2 is *all*, *some*, *every* and *no/none* and for the scope subset *all*, *some* and *every*.

6.7.3.3 isiXhosa

For the isiXhosa quantifier production set, three quantifiers were tested in both meaning and scope subsets, whereas *no/none* was tested in the meaning subset only. The data for the isiXhosa quantifier types and production set comprises all 31 participants' responses. The average percentage correct in Phase 1 ranged from 95% to 100% for meaning and from 96% to 100% for scope (see Table 6.25). Participants fared almost equally well on the meaning subset and the scope subset in Phase 1. In Phase 2, the small difference between meaning and scope scores was again present: The average percentage correct was between 95% and 100% for the meaning subset and between 95% and 99% for the scope subset.

Table 6.25. Comparison of isiXhosa production Phase 1 and Phase 2 descriptive statistics for all quantifiers assessed by the REALt (in percentage)

Variable	isiXhosa - Phase 1 Descriptive Stats Production				isiXhosa - Phase 2 Descriptive Stats Production				Phase 1 vs. 2 (Wilcoxon Matched Pairs Test; direction as indicated by Box and Whiskers plots)	
	Mean	Min	Max	Std. dev.	Mean	Min	Max	Std. dev.	p-value for comparison of isiXhosa Phases 1 and 2	% difference between mean scores
Meaning of <i>every</i>	95	40	100	0.136	95	40	100	0.155	1.0000	0
Scope of <i>every</i>	96	67	100	0.105	95	50	100	0.117	0.8139	-1
Meaning of <i>all</i>	100	100	100	0.000	100	100	100	0.000	n/a	0
Scope of <i>all</i>	98	83	100	0.050	99	83	100	0.030	0.3613	+1
Meaning of <i>some</i>	99	67	100	0.060	100	100	100	0.000	n/a	+1
Scope of <i>some</i>	100	100	100	0.000	95	50	100	0.115	0.0277	-5
Meaning of <i>no/none</i>	99	80	100	0.036	95	20	100	0.152	0.1775	-4
Production TOTAL Score	98	88	100	0.041	97	78	100	0.052	0.3720	-1

The Wilcoxon Matched Pairs Test and the Box and Whiskers plots indicate that all the quantifiers showed some increases and decreases in scores but with no specific pattern, and none of the differences between Phase 1 and 2 were significant apart from the scope subset of *some* which showed a significant decrease from Phase 1 to Phase 2; however, despite this decrease, the Phase 2 score was still above 90%. All quantifiers were already fully acquired at the start of Gr 1, as all the Phase 1 average percentages were above 90 for the meaning and the scope subsets. Based on the average percentages for the meaning subset per quantifier, the order in terms of highest score to lowest score obtained in Phase 1⁹² is *all*, *some*, *no/none* and *every*⁹³, and for the scope subset *some*, *all* and *every*.

6.8 Comparison of quantifiers for English- and isiXhosa LOLT

A comparison between the English and the isiXhosa LOLT learners shows a clear distinction between these two groups in terms of both their comprehension and production skills, with the learners who have their mother tongue (i.e., isiXhosa) as LOLT consistently obtaining

⁹² In the Afrikaans comprehension results, the order of quantifiers from highest to lowest scores was given according to Phase 1, because the scores obtained in Phase 1 were generally higher than in Phase 2. For the English comprehension and production results the order was given according to Phase 2, because there was an overall trend of development where Phase 2 scores were higher than Phase 1 scores. In the case of the isiXhosa production results, the order is given according to the Phase 1 scores as there is only one significant difference in scores for the two phases but also because the Phase 1 scores are mostly higher than those of Phase 2.

⁹³ Recall footnote 88.

higher scores than those who have their L2 (i.e., English) as LOLT. For each quantifier type, set and subset, there is a statistically significant difference between these two groups, as indicated by the p-values obtained during the Mann-Whitney U test for Phase 1 as well as Phase 2. The only quantifier types for which a significant difference was not apparent is the meaning of *no/none* in comprehension and the meaning of *all* in production (see Table 6.26). However, the scores of the isiXhosa LOLT group are still higher than those of the English LOLT group for both these meaning subsets.

Table 6.26. Results of Mann-Whitney U Test for English and isiXhosa Phase 1 and 2 for all quantifiers tested by the REALt: Comprehension and production

	p-value Phase 1 of both groups	p-value Phase 2 of both groups	Box and Whiskers plots indicate:
Comprehension scores			
Meaning <i>every</i>	0.000001	0.010890	isiXhosa > English
Scope of <i>every</i>	0.000000	0.001543	
Meaning of <i>all</i>	0.000001	0.013358	
Scope of <i>all</i>	0.000014	0.037107	
Meaning of <i>some</i>	0.000009	0.000087	
Scope of <i>some</i>	0.000000	0.000162	
Meaning of <i>any</i>	0.000007	0.000075	
Scope of <i>any</i>	0.000000	0.000057	
Meaning of <i>many/more/most</i>	0.000000	0.000140	
Scope of <i>many/more/most</i>	0.000000	0.000093	
Meaning of <i>no/none</i>	0.007611	0.506942	
Comprehension TOTAL Score	0.000000	0.000000	
Production scores			
Meaning of <i>every</i>	0.000000	0.000000	isiXhosa > English
Scope of <i>every</i>	0.000000	0.000000	
Meaning of <i>all</i>	0.000148	0.074809	
Scope of <i>all</i>	0.000000	0.000000	
Meaning of <i>some</i>	0.000000	0.000008	
Scope of <i>some</i>	0.000000	0.000000	
Meaning of <i>no/none</i>	0.000000	0.000000	
Production TOTAL Score	0.000000	0.000000	
Quantifiers TOTAL Score (comprehension + production)	0.000000	0.000000	

The following two Box and Whiskers plots are of the Total scores for comprehension and production as well as of the overall quantifier total scores for English and isiXhosa.

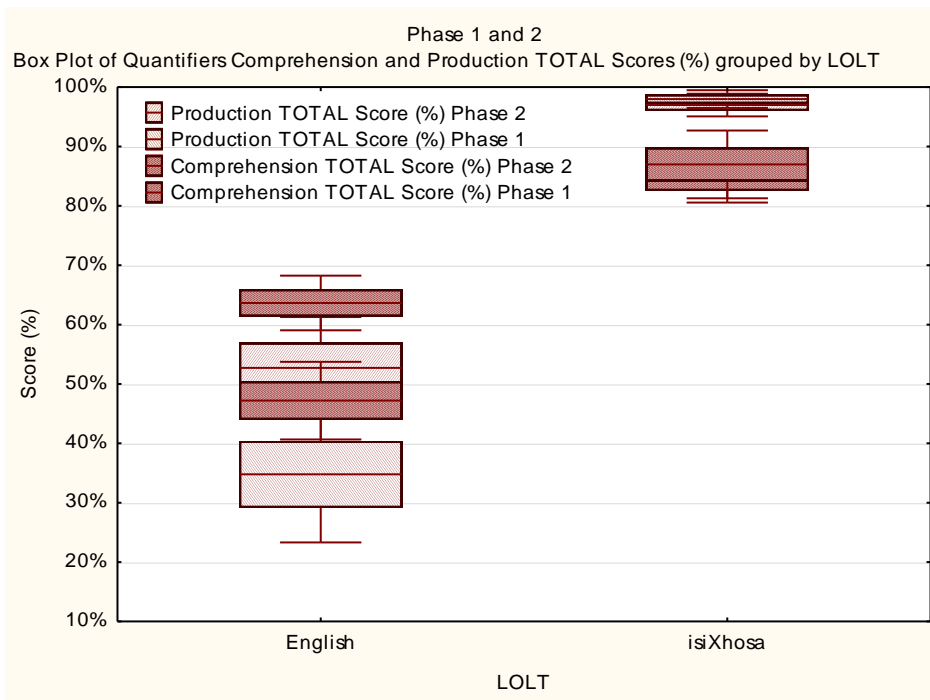


Figure 6.5. The comprehension and production total scores of all quantifier types (%) grouped according to LOLT

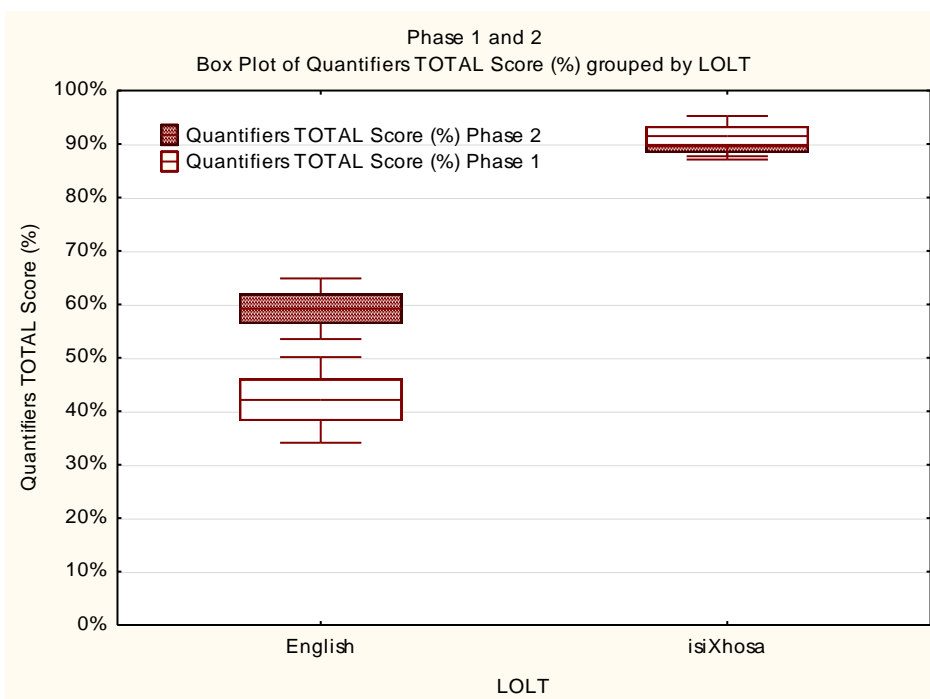


Figure 6.6. The total score of all quantifier types (%) grouped according to LOLT

The learners with English as LOLT thus have statistically significantly lower scores (between 50 and 60%) than those with isiXhosa as LOLT (between 80 and 95%).

6.9 Conclusion

The following discussion and tables provide an overview in terms of order and age of acquisition of quantifiers according to (i) the relevant literature explored in section 6.3 and (ii) the results obtained by Southwood and Van Dulm (2012b:60-66) for the quantifiers which they tested in Afrikaans and English. The tables also include (iii) a summary of the results of the current study on the order and age of acquisition of quantifiers for learners from low SES backgrounds. The summary is divided into two tables, namely one for comprehension (Table 6.27) and one for production (Table 6.28).

Table 6.27. Comparison of comprehension age and order of acquisition in the relevant literature, results obtained by Southwood and Van Dulm (2012b) and the results of the current study

Quantifier	Order of acquisition according to literature	Order of acquisition according to REALt		Order of acquisition according to present data					
		Afr	Eng	Afrikaans		English		isiXhosa	
	Age in years; months								
Comprehension Meaning									
<i>all</i>	4	4	4	<i>no/none</i>	start Gr 1 (6;0-7;6)	<i>no/none</i>	end Gr 1 (6;9-8;2)	<i>no/none</i>	start Gr 1 (6;1-8;11)
<i>any</i>	4	4	4	<i>any</i>	only after (6;9-8;3)	<i>all</i>	only after (6;9-8;2)	<i>any</i>	start Gr1 (6;1-8;11)
<i>no/none</i>	4	4	n/a	<i>all</i>		<i>any</i>		<i>every</i>	only after (6;10-9;7)
<i>more</i>	3.3-5	5	n/a	<i>every</i>		<i>every</i>		<i>all</i>	end Gr1 (6;10-9;7)
<i>most</i>	3.7			<i>many/more/most</i>		<i>many/more/most</i>		<i>many/more/most</i>	only after (6;10-9;7)
<i>many</i>	around 5			<i>some</i>		<i>some</i>		<i>some</i>	
<i>every</i>	after 5	5	4						
<i>some</i>	4-6	8	5						
Comprehension scope									
<i>all</i>	Not indicated in studies as meaning and scope were not differentiated in the available literature in this way.	4	4	<i>many/more/most</i>	only after (6;9-8;3)	<i>every</i>	only after (6;9-8;2)	<i>every</i>	only after (6;10-9;7)
<i>every</i>		5	4	<i>every</i>		<i>many/more/most</i>		<i>many/more/most</i>	
<i>some</i>		6	4	<i>some</i>		<i>all</i>		<i>some</i>	
<i>more</i>		after 6	n/a	<i>any</i>		<i>some</i>		<i>any</i>	
<i>most</i>				<i>all</i>	<i>any</i>	<i>all</i>			
<i>many</i>									
<i>any</i>		7	4						
<i>no/none</i>	n/a	n/a							

The relevant literature does not make mention of specific empirical results pertaining to the production of quantifiers, and therefore the discussion below (following Table 6.28) will only include mention of the results of Southwood and van Dulm (2012b) and of this study.

Table 6.28. Comparison of production age and order of acquisition in the results obtained by Southwood and Van Dulm (2012b) and the results of the current study

Quantifier	Order of acquisition according to literature	Order of acquisition according to REALt		Order of acquisition of quantifiers according to data					
		Afrikaans	English	Afrikaans	English	isiXhosa			
Production Meaning									
<i>all</i>	Not indicated in studies as meaning and scope were not differentiated in the available literature in this way.	after 9	n/a	<i>all</i>	end Gr1 (6;9-8;3)	<i>all</i>	only after (6;9-8;2)	<i>all</i>	start Gr 1 (6;1-8;11)
<i>every</i>		after 9	n/a	<i>every</i>	only after (6;9-8;3)	<i>some</i>		<i>some</i>	
<i>some</i>		after 9	n/a	<i>some</i>		<i>every</i>		<i>no/none</i>	
<i>no/none</i>		after 9	n/a	<i>no/none</i>		<i>no/none</i>		<i>every</i>	
Production scope									
<i>all</i>	Not indicated in studies as meaning and scope were not differentiated in the available literature in this way.	No differentiation between meaning and scope was made in results but it was mentioned that scores were approximately the same.		<i>all</i>	only after (6;9-8;3)	<i>all</i>	only after (6;9-8;2)	<i>some</i>	start Gr 1 (6;1-8;11)
<i>some</i>				<i>some</i>		<i>some</i>		<i>all</i>	
<i>every</i>				<i>every</i>		<i>every</i>		<i>every</i>	

Based on the relevant available literature on the age and order of acquisition of quantifiers, quantifiers seem to be early developing rather than later developing with the exception of the quantifier *every*. However, a distinction between meaning and scope has not always been made in the relevant literature. In data obtained from the REALt by Southwood and Van Dulm (2012b), the meaning results also point to early development with the exception of the Afrikaans quantifier *van die/party/sommige* ‘some’. The scope results, by contrast, point to later development for *van die/party/sommige* ‘some’, *enige* ‘any’ and *baie/meer/die meeste* ‘many/more/most’. In the current study, the results also indicate that quantifiers are later developing in Afrikaans, as the comprehension of all meaning and scope subsets of the quantifiers are only fully developed after ages 6;9 to 8;3 (seeing that none of these quantifiers obtained a percentage of correct responses above 90% in Phase 2). There is one exception in

Afrikaans, namely *no/none* of which the production was already mastered at the start of Gr 1 (6;0-7;6). The quantifier *no/none* could thus be early developing in Afrikaans as indicated by Southwood and Van Dulm (2012b), but this cannot be confirmed as the age range of the current study precludes such confirmation.

The above mentioned is also the case in English, although *no/none* had not yet been acquired by the English children at the start of Gr 1 but rather by the end of Gr 1. However, a statement as to whether or not this quantifier is indeed later developing in English cannot be made based on the results of the current study, because English is the English group's L2 and they started learning English at different ages. It is however clear that the English L2 speakers in this study are at a disadvantage in comparison to the Afrikaans L1 and isiXhosa L1 speakers in the classroom, because the English L2 speakers cannot comprehend or produce quantifiers during classroom discourse to the same extent as the L1 speakers can. In this regard, note that in isiXhosa *no/one* and *any* are already mastered by the start of Gr 1 (6;1-8;11) and *all* by the end of Gr 1 (6;1-9;7). The remaining quantifiers are only mastered later. Yet the comprehension and production of quantifiers by this isiXhosa L1 group who has isiXhosa as LOLT is significantly better than that of their isiXhosa L1 peers who have English as LOLT.

Regardless of the specific ages at which the quantifiers are acquired in each language, there seems to be a general acquisition order for the meaning subset, namely *no/none* is acquired earlier than *many/more/most* and *some*, for both the L1 groups and the L2 group. Quantifiers which fall in the middle of the age of acquisition continuum are *all*, *any* and *every*; these are acquired around the same age but not in the same order in each language. If one refers back to the types of quantifiers and how they are classified according to scope (see section 6.2), *any* and *no/none* (which are classified as NQPs) are acquired earlier whereas no specific pattern could be identified for the other quantifier types.

Whereas the results from Southwood and Van Dulm (2012b) indicate that in Afrikaans the scope subsets of only the quantifiers *some*, *many/more/most* and *any* are later developing, all quantifiers in the scope subset of this study are later developing as none of the percentages of correct responses were above 90%. The order in which these quantifiers were shown to be acquired in the Southwood and Van Dulm (2012b) study was not replicated in the current

study, as the quantifiers *every* and *many/more/most* occur with higher percentage correct scores than other quantifiers such as *all*, *some* and *any* in the current study.

From Table 6.28, it appears that the production of quantifiers in Afrikaans is later developing, as no meaning or scope subsets for quantifier production tested by Southwood and Van Dulm (2012b) or in the current study were fully acquired. In the case of Southwood and Van Dulm (2012b) not even the 9-year-olds obtained scores above 90%. In the present study, none of the learners in the Afrikaans or English groups were able to achieve a percentage correct above 90%, with the exception of Afrikaans learners who acquired the production of the quantifier *al die* ‘all (the)’ by the end of Gr 1 (6;9-8;3). The isiXhosa data differ from those of the other two groups though: All quantifier production is fully acquired by the start of Gr 1 (6;1-8;11), despite the fact that the isiXhosa group has not yet acquired the comprehension of the quantifiers *every*, *all*, *some* and *many/more/most* by the start of Gr 1. It should however be noted that the comprehension scores of the isiXhosa group, even if not above 90%, were very high in Phase 1 and Phase 2 compared to the other two languages, as indicated in the graph below.

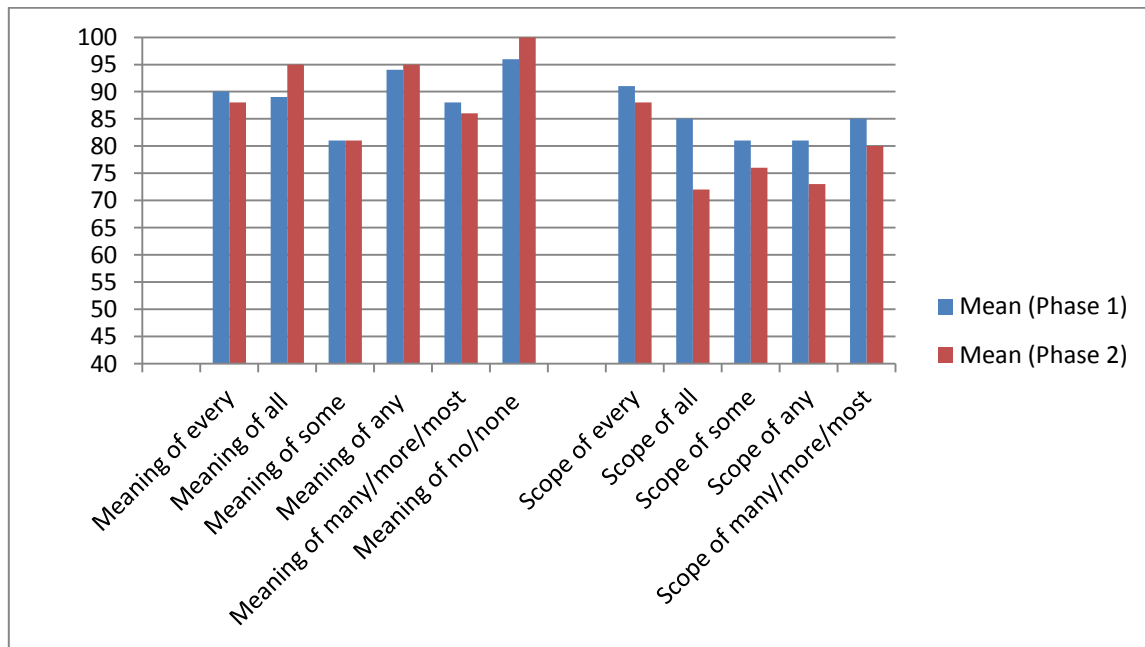


Figure 6.7. Overview of isiXhosa comprehension scores for meaning and scope in Phase 1 and 2

A second possible reason why the production set seemed to have been fully acquired by the isiXhosa group but not the comprehension set could be that the production set, unlike the

comprehension set, does not provide opposer and distracter pictures which could confuse the learners (as explained in the error analysis in section 4.3.1). These opposer and distracter pictures were used in the scope subset and it is by comparing the meaning and scope subsets that we see the lower scores in the graph above. In the production data, errors comprised no quantifier used, circumlocutions with negation, the noun occurring instead of the pronoun, irrelevant picture descriptions given, descriptions of the pictures and completely irrelevant responses. The learners thus did not get confused with other quantifiers as there was no stimulus prompting other quantifiers.

Table 6.29 contains the overall comprehension and production scores for each language group.

Table 6.29. Results of Wilcoxon Matched Pairs Test for Afrikaans, English and isiXhosa comprehension and production Total scores for Phase 1 and 2 with direction indicated from Box and Whiskers plots

Variable	p-value for comparison of Phase 1 with Phase 2	Direction
Afrikaans comprehension TOTAL Score	0.150004	Phase 2 > Phase 1
English comprehension TOTAL Score	0.000038	Phase 2 > Phase 1
isiXhosa comprehension TOTAL Score	0.294305	Phase 1 > Phase 2
Afrikaans production TOTAL Score	0.254054	Phase 2 > Phase 1
English production TOTAL Score	0.005128	Phase 2 > Phase 1
isiXhosa production TOTAL Score	0.371974	Phase 1 > Phase 2

To conclude: Afrikaans and English quantifiers are not fully acquired by the end of Gr 1, with the exception of the comprehension of the meaning of *no/none* in Afrikaans and the production of the meaning of *al die* ‘all’ in Afrikaans, which were mastered by the start of Gr 1, and the comprehension of the meaning of *geen* ‘no/none’ which was mastered by the end of Gr 1. For isiXhosa, only the comprehension of the meaning of *no/none*, *any* and *all* were fully acquired by either the start or the end of Gr 1 but all production set quantifiers were fully acquired at the start of Gr 1. Note however that there was an increase in the comprehension and production scores of Afrikaans and English quantifiers from Phase 1 to Phase 2. However, this increase in the Afrikaans group was not significant, in contrast to the increase in the English group which was significant, and thus despite the fact that these quantifiers are not yet fully acquired, there is a definite developmental trend apparent between Phase 1 and Phase 2 for the English group.

Chapter 7

Constructions containing binding relations

7.1 Introduction

This chapter will explore the literature available on L1 and L2 acquisition of two aspects of binding (anaphors and pronouns) as well as summarise the rules applicable to the use of anaphors and pronouns in general and according to Binding Theory (Chomsky 1981, 1982). Working within Binding Theory, the chapter will also provide a description of how anaphors and pronouns present themselves in Afrikaans, English and isiXhosa. The chapter further describes how anaphors and pronouns as elements involved in binding are assessed by the REALt, and how the data collected on binding relations were scored and analysed in this study.

7.2 Relevant properties of binding relations

Binding is defined by Southwood and Van Dulm (2012b:17) as the “relationship in which different NPs refer to one and the same entity in the real world.” According to Radford (2004:74), these NPs are referred to as “constituents” which combine in different ways in phrases and sentences to create connections and to relate these connections. This combination of constituents makes use of the relative positions of the NPs in a sentence to create one class of expressions, called “anaphors”. Richards and Schmidt (2002:25) describe an anaphor as a word or a phrase which refers back to another word or phrase used earlier in the text or conversation, specifically the NP constituents referred to above. For instance, in example (7.1), NP₇ *it* is the anaphor of NP₃ *a present* (with *a present* being the antecedent of the anaphor *it*), and *his* in NP₂ *his mother* is the anaphor of NP₁ *Peter* (with NP₁ *Peter* being the antecedent of NP₂ *his mother*).

- 7.1. Peter_i⁹⁴ wanted to give his_i mother_j a present_k, but he_i cut himself_j badly while
 NP₁ NP₂ NP₃ NP₄ NP₅
he_i wrapped it_k
 NP₆ NP₇

⁹⁴ By convention, coindexation indicates that two NPs have the same referential index, meaning that they both refer to the same entity (Haegeman 1994:52).

There are three binding principles in Binding Theory⁹⁵ (Chomsky 1981:188; 1982:20), which are presented below with reference to example (7.1):

Principle A: A reflexive/reciprocal pronoun (anaphor) must be bound in its local domain (so NP₅ *himself* is bound to NP₄ *he*).

Principle B: A non-reflexive pronoun (pronoun) must be free (unbound) in its local domain (so NP₄ *he* and NP₆ *he* are unbound and can but need not refer to the same entity).

Principle C: An R(eferential)-expression (in example (7.1), NP₁ *Peter*) is free in its local domain.

In the next section, I will discuss existing research on how these principles and other aspects of binding are acquired by children. I will return to these three principles in section 7.4.1.

7.3 The development of binding relations in child language

It is generally accepted, in terms of Binding Theory, that principles are universal in nature and that these principles allow for parametric variation. Children are thus innately endowed with the ability to develop the knowledge needed to interpret binding elements (Grimshaw & Rosen 1990:187). In terms of the acquisition of binding relations, a review in Lust (1986)⁹⁶ focuses on experimental studies of English L1 acquisition and mainly on directionality of binding, specifically on those studies that focus on anaphors and pronouns. Roeper (1986) investigates and explains how children acquire bound variables, whereas Lust and Clifford (1986) study the effect of depth, distance and directionality on child acquisition of anaphora. Lust, Solan, Flynn, Cross and Schuetz (1986) focus on the comparison between null and pronoun anaphora. Lastly, Sherman and Lust (1986) study the syntactic and lexical constraints on the acquisition of control in complement sentences. General findings of the abovementioned studies are discussed below.

Firstly, a focus on directionality in terms of forward and backward directionality (see below) is to be found in these studies. The directionality effect has been proposed to be a constraint in

⁹⁵ It is acknowledged that analyses of binding relations exist in the Minimalist Program and that these analyses have been worked out for English, Afrikaans and one Bantu language, Lubukushu (see Hicks 2006; Oosthuizen 2013 and Sikuku 2011, respectively). However, because these analyses are not part of an as well developed research tradition as is the case with Binding Theory, the analyses in this chapter will not be done making use of the assumptions and devices of the Minimalist Program but rather of those of Binding Theory.

⁹⁶ Most sources cited in this section are from the 1980s and 1990s. More recently, anaphors have been studied within a minimalist and optimality theory framework. As there are few (if any) acquisition studies pertaining to binding relations in the minimalist and optimality theory traditions, detailed accounts of these studies are not strictly applicable to this chapter and are thus not reviewed here.

the L1 acquisition of anaphors. Accordingly, when dealing with anaphora, children do not use all the options available to adults; where the order of antecedent and pronoun occurs forward, this is taken into account by children, but the backwards order is not. Examples illustrating forward and backward order, respectively, are given in examples (7.2) and (7.3) below (Lust 1986:68-70).

7.2. *Jenny_i ran fast, because she_i heard a lion.*

7.3. *Because she_i heard a lion, Jenny_i ran fast.*

Despite the fact that children acquiring English as L1 show evidence of a forward directionality constraint on anaphora, this forward directionality constraint is not a consequence of an autonomous principle of precedence (Lust 1986:86-87). In the current study, only forward directionality is assessed. (An analysis of directionality falls outside the scope of the study; for a detailed overview, see Lust 1986.)

Other general findings of acquisition studies of the 1980s pertain to how c-command provides the foundation for Binding Principles A, B and C.⁹⁷ These studies include those of Solan (1981) and Goodluck (1981) in which structure dependence is shown to play an important role in determining domains for anaphora and thus in establishing antecedent-anaphor relations and in which the notion of c-command is shown to affect these relations. General results indicate that the directionality constraint includes evidence of structure dependence. Thus directionality and c-command are intrinsically linked to the fact that children are consulting general principles relevant to the grammar they are constructing (Lust 1986:73, 87).

Studies on empty and phonetically realised anaphor types also form part of Lust's (1986) first volume. Generally, there is no developmental prevalence of phonetically overt over phonetically null anaphors (Lust 1986:87). Despite the fact that empty categories are relevant to the study of isiXhosa in this dissertation, these studies are not elaborated upon here because they are not central to what was investigated in the current study. Lastly, early studies generally found that young children may allow a pragmatic component to override the grammatical structure-dependent principles, and that the pragmatic and structure dependent principles appear to be independent of each other (Lust 1986:88).

⁹⁷ Recall from chapter 6 that c-command refers to the syntactic relationship between nodes of a tree in which neither node is dominated by the other but both are dominated by the same higher nodes; see Richards and Schmidt (2010:72).

Crain and McKee (1985), Jakubowicz (1984, 1989) and Wexler and Chien (1985) demonstrated that English-speaking children almost always do well when having to interpret pronouns and lexical nominal expressions such as *He washed Luke Skywalker* or reflexives in sentences such as *Luke Skywalker washed himself*. However, children found the interpretation of sentences such as *Luke Skywalker washed him* more difficult (Hamann in De Villiers & Roeper 2011:247). In this regard, Grimshaw and Rosen (1990:187) point out that studies on the acquisition of binding from a Binding Theory point of view have generally shown that children do not have the knowledge of Principle B, namely that a non-reflexive pronoun must be unbound in its local domain. This difficulty with Principle B was called the “Delay of Principle B Effect” (Hamann in De Villiers & Roeper 2011).

Two general trends emerged from earlier studies on binding: Firstly, children will violate not only Principle B but also to some extent Principle C (namely that an R-expression is free in its local domain) and, secondly, children tend to apply Principle A (that a reflexive/reciprocal pronoun must be bound in its local domain) earlier than Principle B. Knowledge of Principle B thus develops later than knowledge of Principle A, which is in accordance with the Delay of Principle B Effect (Grimshaw & Rosen 1990:187).

There are three possible reasons why the abovementioned two trends may occur. Firstly, studies such as those of Jakubowicz (1989), Solan (1987), and Lust and Marthohardjono (1987) proposed that children do not apply the standard grammatical theory because it is not clear to children which expressions are subject to which principles, and thus all expressions are bound locally and follow Principle A. Secondly, Borer and Wexler (1987) state that it is too simple to equate innate knowledge with early command and that Principles B and C may “mature” gradually (Grimshaw & Rosen 1990:188). Lastly, a reformulation of the Binding Theory is suggested in which it is stipulated that Principle B only constrains pronouns if said pronouns are bound variables, and hence early knowledge of binding principles is indeed possible. Proponents of the third explanation include Wexler and Chien (1985), Montalbetti and Wexler (1985), Reinhart (1983), and Varela (1989).

Other studies done in the late 1980s to early 1990s however found the opposite, namely that children indeed have knowledge of both Principles B and C of Binding Theory, but that the children cannot obey these principles. The fact that children cannot obey these principles does, however, not mean that they do not have knowledge of these binding principles. Grimshaw and

Rosen (1990) used methodologies developed by Crain and McKee (1985), Chien and Wexler (1989), Eisele and Lust (1989), Kaufman (1988) and McDaniel, Crains and Hsu (1990), contrasting the truth-value judgements of 4- and 5-year-old children on Principle B and C violations with the same children's judgements on otherwise identical sentences without any violations. The assumption that children do possess knowledge of binding is based on experimental evidence as well as other supporting evidence such as a reanalysis of literature which had initially indicated that children do not know Principles B and C.

Grimshaw and Rosen (1990:188) evaluate, with experimental data, how it is that children know Principles B and C. They start by saying that studies generally do not report on the types of production errors and the use of emphatic pronouns. From their own experimental study, they found that children (aged 4 to 5) accepted grammatical sentences 83% of the time while rejecting only 58% of the ungrammatical sentences for Principle B and 62.5% for Principal C. The rejection of sentences is attributed to (i) children mostly answering "yes" because they assume that what adults say has to be true or correct and (ii) the fact that children might only listen to the sentence and not consult the corresponding picture which provides context for sentence interpretation. By comparing children's positive responses to the grammatical sentences to their positive responses to the ungrammatical sentences, it emerged that they treated the grammatical sentences of Principles B and C consistently differently than the ungrammatical sentences, which indicates that "knowledge of binding must [have influenced] the subjects' responses" (Grimshaw & Rosen 1990:190-191).⁹⁸

Chien and Wexler (1989) (with children aged 2;6 to 6;6) as well as Kaufman (1988) (with children aged 2;7 to 3;11 and 5;0 to 6;5) also used truth-value judgement tasks to differentiate between grammatical and ungrammatical application of binding principles. Despite the fact that there was no comparison of positive responses to the grammatical sentences with positive responses to the ungrammatical sentences, a reanalysis of the raw data obtained from both studies indicated the same distinction in responses between grammatical and ungrammatical sentences for Principles B and C; and the children's scores proved to be higher and better than those in the Grimshaw and Rosen study (Grimshaw & Rosen 1990:189-193).⁹⁹

⁹⁸ For more details of this study, see Grimshaw and Rosen (1990).

⁹⁹ See Chien & Wexler (1989) for a detailed overview of their study.

The studies of Kaufman (1988) (see directly above) and Grimshaw and Rosen (1990) are of importance for the current study. In the Grimshaw and Rosen (1990:194) study, referential simple and complex NPs were included for younger children (aged 2;7 to 3;11) and older children (5;0 to 6;5). The results indicate that children will obey Principle B in truth-value judgements tasks, obtaining high scores on such tasks. The younger group accepted simple un-embedded Principle B violations at a very low rate (10-23%) in comparison to a high rate of acceptance of non-violations (88%). The less complex Principle B violations were rejected more frequently compared to more complex violations, and this rejection rate was attributed to the processing load associated with the complexity of the sentences.

A study by Deutsch, Koster and Koster (1986) also investigated children's performance on items testing knowledge of Principle B. Instead of using truth-value judgements, the study was conducted by means of a picture selection task. The correct picture was selected 53% of the time by the 6-year-olds, 87% by the 8-year-olds, and 90% by the 10-year-olds. Chance level was fixed at 25% and thus all of these participants could be said to have knowledge of Principle B (Grimshaw & Rosen 1990:195). McKee (1988) also reports that the use of clitic pronouns in Italian children shows knowledge of Principle B.

The difference between knowledge of Principle A and Principle B has been shown by studies such as those of Jakubowicz (1984) and Wexler and Chien (1985). Jakubowicz (1984) found that performance on an act-out task was higher for anaphors (Principle A) than for pronouns (Principle B). Wexler and Chien (1985) found that children fared poorly at reflexives (Principle A) at an early age (20% correct at age 2;6) but improved as they got older (90% correct by age 6;6). Pronouns (Principle B) however remained between 64% and 78% from age 2;6 to 6;6. In general, other studies using this methodology have shown that performance on pronouns is not yet perfect at age 6;6 (Grimshaw & Rosen 1990:198).

Southwood and Van Dulm (2012b:17) review literature that indicates that Principle A is acquired fairly early, around the age of 3, in a range of languages (see Jakubowicz (1989) for French; Koster (1993) for Dutch; and Marinis & Chondogianni (2011) for English). Principle B, by contrast, is only mastered later as indicated by the abovementioned figures obtained in the Deutsch et al. (1986) study.

It is generally observed then that children perform above chance and thus know the binding principles, but not to the point of perfection, especially in the case of Principle B. The lack of perfection in Principle B can have three possible causes. Firstly, pragmatically speaking, pronouns are required to have an antecedent, but at times the child has to choose between accepting an antecedent of a pronoun which is outside of the discourse, or violating the binding principles. The differentiation between pragmatics and grammatical principles can lead to confusion among children. Secondly, the use of possessive NPs which can act as alternative antecedents inside NPs leads to an issue of complexity. The complexity of possessive constructions and the complexity of adding an alternative antecedent may lead to a lower overall performance (Grimshaw & Rosen 1990:200). Lastly, performance on Principle A is elevated because certain picture identification tasks which intend to test knowledge of anaphor behaviour unconsciously allow children to perform higher for Principle A as the children can often choose the correct answer just by identifying a reflexive action regardless of whether or not they have knowledge (or invoke their knowledge) of the grammatical principles needed to establish binding relationships. Generally, the discrepancy between performance results for Principles A and B is not necessarily a direct reflection of the presence or lack of grammatical knowledge but also of different, extralinguistic factors.

A more recent study, by De Villiers, Cahillane and Altreuer (2006), indicates how the comprehension of binding phenomena by typically-developing children can decrease due to complexity in terms of the inclusion of quantifier NPs like *all the children* or *every child*. Also, older children may still have problems with comprehension and production tasks pertaining to binding and may obtain higher scores on production tasks than on comprehension tasks, as the reflexive can be replaced in production tasks by the full NP which is given as the subject in the stimulus, as illustrated by the examples below.

7.4. *Mama Bear_i is washing herself_i*

7.5. *Mama Bear_i is washing Mama Bear_i*¹⁰⁰

¹⁰⁰ Despite the fact that children do produce these types of constructions where the stimulus is repeated, these constructions are ungrammatical according to Binding Theory, because the NP *Mama Bear* is an R-expression, which should be free at all times according to Principle C. However, in this case both R-expressions are bound to each other. In this case, the use of the R-expression (NP) still does not indicate whether the child can apply the binding principles correctly (regardless of whether one deems this sentence grammatical or ungrammatical).

There are thus arguments for abandoning the label “Delay of Principle B Effect” as research by Hendriks and Spender (2006) and De Villiers et al. (2006) has been focusing on the asymmetry in comprehension and production of Dutch and English binding aspects. The term “Delay of Principle B Effect” has thus been replaced by the term “Pronoun Interpretation Problem” (PIP) (Hamann 2011:248). Two general conclusions were drawn on the basis of research, namely that (i) reference of anaphoric elements is established by means of either bound variables or coreference, and (ii) syntax and pragmatics both play an important role in creating constraints on binding relations (Hamann 2011:248).

While authors such as Avrutin and Wexler (1992), Hamann (2002) and Hendriks, Siekman, Smits and Spender (2007) proposed pragmatic explanations for children’s interpretation of binding relations, others such as Baauw (2000, 2002), Baauw and Cuetos (2003), Baauw, Escobar and Philip (1997), Hamann (2002), Hamann, Kowalski and Philip (1997) and McKee (1992), have argued on the basis of cross-linguistic studies that the successful production of clitics in Romance languages is due to structural/derivational reasons. Recent studies have tried to overcome the problems in Binding Theory by integrating both syntax and pragmatics into one theory. Such integration led to accounts of the development of binding in Optimality Theory by Burzio (1998), De Villiers et al. (2006) and Hendriks and Spender (2006).

Lastly, the study by Southwood and Van Dulm (2012b:13) also focused on binding, specifically on reflexives, reciprocals, personal pronouns and possessive pronouns. The study found that the English-speaking participants responded successfully with an increase in the percentage of correct responses from 79% at age 4 to 92% at age 8. For the Afrikaans-speaking group, the percentage correct answers increased from 59% at age 4 to 86% at age 8 and 88% at age 9. Two of the items in the binding comprehension set proved to be problematic for all age groups as it required comprehension of an exophoric reference (meaning that the item contained reference to an entity not yet referred to in the text). The other items all required comprehension of endophoric reference (where one can, or has to, look elsewhere in the text of the item to interpret the meaning of the item). This possibly shows that exophoric reference is a later developing skill, which follows on the development of comprehension of endophoric reference.

Studies on the L2 acquisition of binding relations are few and focus on adult L2 learners. Cook (1993:185) discusses her own study (1990b) in which she found similarities in terms of

the processing of binding relations by mother tongue speakers and adult L2 speakers with different L2s. These similarities are applicable to both anaphors and pronouns (as defined in Binding Theory). Other studies with L2 adults include those of Finer and Broselow (1986), Broselow and Finer (1991) and Thomas (1989). Despite the fact, as Cook (1993:185) points out, that the principles and parameters approach is very valuable because it provides a “language-independent framework within which different L1s and L2s can be compared and within which L1 acquisition can be compared to L2 acquisition”, there are two problems with this framework and Binding Theory. The first problem is that, despite the fact that different languages can easily be analysed under this approach, only English has been studied as an L2 as far as the acquisition of binding principles is concerned (see Flynn 1987). The second problem is that the principles and parameters theory constantly changed, and this generally caused any L2 research to be out of date as the theory changed before it could be applied to the L2 context and the study would then be even further out of date when such results were published (Cook 1993:198-199).¹⁰¹ Despite these problems with Binding Theory in L2 acquisition research, this framework is employed in this chapter, for reasons stated earlier (see footnote 96).

7.4 How binding relations presents itself in English, Afrikaans and isiXhosa

Recall that anaphoric expressions involve the relationship of binding between at least two NPs, where NPs are categorised as a group of words with a noun or a pronoun as the head of the phrase. Nouns generally occur as the subject or object of a verb or as the object (or complement) of a preposition and can be modified by an adjective or be used in conjunction with determiners (Richards & Schmidt 2010:402). Nouns therefore have distinct characteristics in comparison to other word classes. These characteristics include the fact that they can (with some exceptions) also form plurals and take articles as discussed in section 3.4.¹⁰²

Pronouns are words which may replace a noun or an NP. Richards and Schmidt (2002:429) state that pronouns include personal, possessive, demonstrative, interrogative, reflexive and

¹⁰¹ For an overview of these adult L2 studies on binding relations, see Cook (1993) and Eckman (1994).

¹⁰² For a detailed exposition on the difference between how nouns are used in Afrikaans, English and isiXhosa, please refer back to section 3.4 of chapter 3.

indefinite pronouns, whereas Quirk et al. (1972: 207) divide and organise pronouns into subclasses as outlined in the figure below:¹⁰³

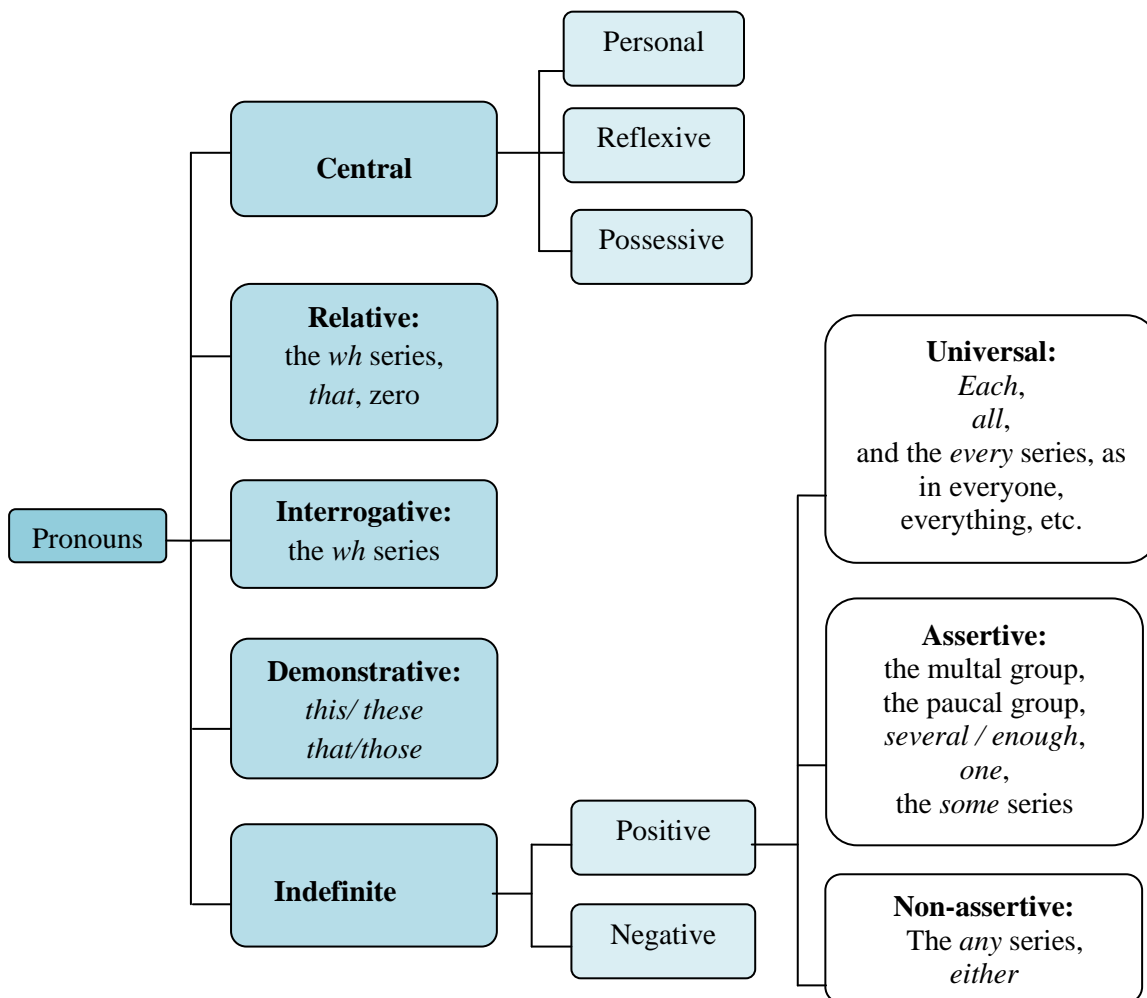


Figure 7.1 The different subclasses of pronouns in English

Radford outlines two types of anaphors, namely reflexives and reciprocals as indicated under central pronouns in the figure above. Reflexivity and reciprocity involve the phenomenon of pronouns reflecting other nominal elements of the sentence by means of a co-referential relation. Reflexive pronouns are used when the direct or indirect object in a sentence has the same reference as the subject of the sentence. Reciprocal pronouns, by contrast, involve the joint exchange or interaction between people or entities with the use of pronouns such as *each other* and *one another* in English (Richards & Schmidt 2002:447,451).

¹⁰³ Figure 7.1 provides an outline of the different subclasses of pronouns. Not all of these subclasses of pronouns are applicable to the phenomenon of binding discussed in this chapter; they are however pertinent to mention here, because some of these other pronoun subclasses feature in other chapters of this dissertation as many pronouns have the double function of determiners and nominals. Positive and indefinite pronouns double as constituents of a DP in terms of quantification explored in chapter 6, whereas demonstratives formed part of the discussion on articles in chapter 5 (see Quirk et al. 1972:207).

Southwood and Van Dulm (2012b:19) include personal and possessive pronouns in the items of the REALt because, as illustrated in the figure above, not only reflexive and reciprocal pronouns are anaphoric; personal and possessive pronouns can also refer back to an antecedent. Personal pronouns are pronouns which replace or represent persons or things in a sentence or phrase. Personal pronouns are differentiated in terms subject and object personal pronouns as well as by means of the grammatical categories of Person, Number, Gender and Case applicable to the endo- or exophoric reference. Possessive pronouns are pronouns used to indicate ownership and generally qualify a specific NP. When qualifying the NP, the appropriate possessive pronoun is also selected according to the applicable Person, Number, Gender and Case (Richards & Schmidt 2010:431,445).¹⁰⁴ The subclass of central pronouns thus forms an integral part of anaphoric expressions and binding relationships, and these pronouns can take various forms depending on the language in question.

The characterisation and definition of nouns and pronouns are not only dependent on the language in question but also on the theoretical framework in which it is analysed. Note that in Binding Theory the differentiation between nouns and pronouns and how they are defined and classified differs from the general definitions given in the paragraph above as well as in section 2 of this chapter. In Binding Theory, morphosyntactic criteria for differentiation are involved. Accordingly, what are referred to as “pronouns” and “nouns” in the abovementioned classification are referred to differently in Binding Theory. According to Buring (2005:3), the term “anaphor” traditionally refers to “any NP, reflexive or [non-reflexive], that has an antecedent”, whereas the term “pronominal” (or “pronoun”) “applies to reflexive and non-reflexive pronouns alike”. Chomsky however divides NPs into three classes, namely anaphors, pronouns and R-expressions: anaphors include reflexives and reciprocals, pronouns include non-reflexive pronouns, and R-expressions include full NPs. For the purpose of this study, the following conventions will apply (Buring 2005:3):

- (i) “Reflexive/Reciprocal pronouns” are equated with Chomsky’s “anaphors”.
- (ii) “Non-reflexive pronouns” are equated with Chomsky’s “pronouns”.
- (iii) “Full NPs” are equated with Chomsky’s “R-expressions”.

¹⁰⁴ The concept of ‘possession’ involves both possessive pronouns and possessive determiners. When possession pertains to qualifying a noun in the object position, the possessive determiner form is used (i.e., *It is my book*). When ‘possession’ pertains to qualifying a noun in the subject position, the possessive pronoun is used (i.e., *The book is mine*). The REALt only assesses ‘possession’ in the determiner form; however, for the purpose of consistency, ‘possession’ will be referred to as “possessive pronouns” in this dissertation in order to conform to the terminology used in Binding Theory.

In terms of Binding Theory, the following criteria always have to apply for a pronoun (reflexive or non-reflexive) to be bound: NP₁ binds NP₂ if and only if ...

- (i) NP₁ and NP₂ are coindexed,
 - (ii) NP₁ precedes NP₂, and
 - (iii) NP₁ c-commands NP₂.
- (Büring 2005:8)

7.4.1 Aspects of binding relations in English and Afrikaans

In this chapter, the distinction between nouns and pronouns in Afrikaans and English is discussed as both can occur as NPs, which can have anaphoric reference. The following tables outline the different forms used for each of the four subsets of pronouns in English and Afrikaans. The different pronoun forms for English in Table 7.1 below were adapted from Quirk et al. (1972:209), whereas those for Afrikaans in Table 7.2 were adapted from Donaldson (1993:123).

Table 7.1. Different pronoun forms in English

		Personal pronouns		Reflexive pronouns	Reciprocal pronouns	Possessive pronouns		
		Subjective case	Objective case			Determiner function	Nominal function	
1 st person	Singular	<i>I</i>	<i>me</i>	<i>myself</i>	n/a	<i>my</i>	<i>mine</i>	
	Plural	<i>we</i>	<i>us</i>	<i>ourselves</i>		<i>our</i>	<i>ours</i>	
2 nd person	Singular	<i>you</i>	<i>you</i>	<i>yourself</i>		<i>your</i>	<i>yours</i>	
	Plural			<i>yourselves</i>				
3 rd person	Singular	Masculine	<i>he</i>	<i>him</i>		<i>himself</i>	<i>his</i>	<i>his</i>
		Feminine	<i>she</i>	<i>her</i>		<i>herself</i>	<i>her</i>	<i>hers</i>
		Neutral	<i>it</i>	<i>it</i>	<i>itself</i>	<i>its</i>		
	Plural	<i>they</i>	<i>them</i>	<i>themselves</i>	<i>each other / one another</i>	<i>their</i>	<i>theirs</i>	

Table 7.2. Different pronoun forms in Afrikaans

		Personal pronouns		Reflexive pronouns	Reciprocal pronouns	Possessive pronouns	
		Subjective case	Objective case			Determiner function	Nominal function
1 st person	Singular	<i>ek</i>	<i>my</i>	<i>my(self)</i>	n/a	<i>my</i>	<i>myne</i>
	Plural	<i>ons</i>	<i>ons</i>	<i>ons(self)</i>		<i>ons</i>	<i>ons s'n</i>
2 nd person	Singular	<i>u / jy</i>	<i>u / jou</i>	<i>u(self) / jou(self)</i>		<i>jou</i>	<i>joune</i>
	Plural	<i>julle</i>	<i>julle</i>	<i>julle / jul(self)</i>			
3 rd person	Singular	Masculine	<i>hy</i>	<i>hom(self)</i>	<i>mekaar</i>	<i>sy</i>	<i>syne</i>
		Feminine	<i>sy</i>	<i>haar(self)</i>		<i>haar</i>	<i>hare</i>
		Neutral	<i>dit</i>	<i>dit</i>		<i>hom(self)</i>	<i>sy</i>
	Plural	<i>hulle</i>	<i>hulle</i>	<i>hulle / hul(self)</i>		<i>hulle / hul</i>	<i>hulle s'n</i>

For the purpose of this study in terms of personal and possessive pronouns, only objective case personal pronouns and possessive pronouns occurring as determiner functions will be elaborated on, as subjective case personal pronouns and possessive pronouns with nominal functions are not included in the REALt. In order to form a sentence with any of these pronouns (highlighted in grey in the tables) or with a reflexive or reciprocal pronoun, the pronoun or the NP which contains the pronoun must be in the object position of the sentence as illustrated with NP₂ and NP₃ in example (7.6) below where NP₁ is the subject.

7.6. *Tim_i wants his_i toy_j but cannot have it_j*
 NP₁ NP₂ NP₃

Recall that Principle A pertains to the use of reflexive, reciprocal and possessive pronouns, where in examples (7.7) to (7.9) below the pronouns *themselves*, *each other* and *their* must be bound by another NP within the same clause, in all three cases *the boys* (Southwood and Van Dulm 2012b:17). (This is assuming that the context makes it clear that the boys are reading their own books in example 7.9.)

7.7. *The boys_i hurt themselves_j*

7.8. *The boys_i kicked each other_j*

7.9. *The boys_i read their_j books*

In a sentence such as that in example (7.10), the antecedent of the non-reflexive possessive pronoun *their* is ambiguous: it can refer to the girls' hair, to the boys' hair or to the hair of another group of entities. If the non-reflexive pronoun *their* refers to the former, then Principle A is applicable; however, if *their* refers to any of the latter two, then Principle B is applicable.¹⁰⁵ In this case, not only syntax is involved but also extralinguistic knowledge, because without the context it is not clear which meaning is intended.¹⁰⁶

¹⁰⁵ Bhatt (2004:4) states that there is a “breakdown of complementarity between the distribution of anaphors and pronouns [and that] the problem of complementarity also arises with possessive pronouns.” Possessive pronouns such as the *their* in example (7.10) above can be bound locally and also non-locally. One possibility is to just say that the possessive *their* is systematically ambiguous between a pronoun *their* and an anaphor *their own*. Thus *their* in example (7.10) can be a pronoun in one interpretation and an anaphor in the other. This line of reasoning receives some support from the fact that English does not seem to have a simplex possessive reflexive pronoun.

¹⁰⁶ Binding Theory is problematic as far as the explanation of how possessive pronouns are classified and which principles are applicable to possessive pronouns are concerned, because the analysis of possessive pronouns was not included in Binding Theory. Possessives will most of the time act as pronominals and be subject to Principle B; however, there are cases in which possessives are obliged to follow Principle A and be classified as anaphors (see Oosthuizen 2013:chapter 2).

7.10. *The boys_i laughed while the girls_j combed their_{i/j/k} hair*

Principle B also pertains to cases in which the non-reflexive pronoun, which occurs in the embedded or subordinate clause, does not have an antecedent in the same clause, as is illustrated in example (7.11) below. In this example, the subject of the subordinate clause, *the girl*, is not the antecedent of the pronoun *his*; rather, the subject of the main clause, *the boy*, (or another entity, not mentioned in the sentence) is the antecedent. Here, the non-reflexive pronoun is not governed locally but is free, as required by Principle B. Principle B can also reflect personal pronouns where, as in example 7.12 below, the pronoun *them* must be free from any other NP in its clause, and may not be bound by *the boys* as in examples (7.7) to (7.10) above (Southwood & Van Dulm 2012b:17).

7.11. *The boy_i smiled while the girl cleaned his_{i/j} room*

7.12. *The boys_i heard them_j*

Principles A and B of Binding Theory, applicable to English, are equally applicable to Afrikaans. Afrikaans reflexive, reciprocal and possessive pronouns are also subject to Principle A as is reflected in examples (7.13) to (7.16) below.

7.13. *Die seuns_i het hulself_j seergemaak*
'The boys hurt themselves'

7.14. *Die seuns_i het mekaar_j geskop*
'The boys kicked each other'

7.15. *Die seuns_i het hulle_j boeke gelees*
'The boys read their books'

7.16. *Die seuns_i het gelag terwyl die meisies_j hulle_{i/j/k} hare gekam het*
'The boys laughed while the girls combed their hair'

Here, example (7.16) again is ambiguous and can reflect both Principle A and B depending on the context. The Afrikaans equivalents of examples (7.11) to (7.12) above are provided in examples (7.17) and (7.18) below.

7.17. *Die seun_i het geglimlag terwyl die meisie sy_{i/j} kamer skoongemaak het*
'The boy smiled while the girl cleaned his room'

7.18. *Die seuns_i het hulle_j gehoor*
'The boys heard them'

Unlike in English, however, a reflexive pronoun in Afrikaans can appear either with or without the suffix *-self*. Reflexive pronouns in Afrikaans are thus allomorphic in that there are

two forms available as illustrated in examples (7.19) and (7.20) below (Southwood & Van Dulm 2012b:17).

7.19. *Liza_i voer haarself_i*
‘Liza feeds herself’

7.20. *Liza_i voer haar_j*
‘Liza feeds her(self)’

The two example sentences can mean exactly the same, namely that Liza is feeding herself. However, because the *self*-less reflexive pronoun and the personal pronoun have the exact same form, example (7.20) is also ambiguous in that it can mean that Liza feeds herself or that she feeds another female person or object. This ambiguity can only be correctly interpreted by inferring the meaning from the context (Southwood & Van Dulm 2012b:17).

7.4.2 Aspects of binding relations in isiXhosa

As stated above, anaphoric references may involve a combination of constituents which make use of the relative positions of the NPs in a sentence to express a binding relationship. This relationship is however expressed differently in different languages. Languages such as English and Afrikaans make use of nouns and pronouns to make reference to other NPs, while isiXhosa uses the following for reflexive and reciprocal (anaphoric) references:

- (i) the combination of subject and object concord clitics (which are dependent on the different noun classes of the antecedents) added to verb stems for the equivalent of personal pronouns in Afrikaans and English,
- (ii) the affixation of reflexive and reciprocal clitics *-zi-* and *-an-* with an empty pronominal object position for the equivalent of reflexive and reciprocal pronouns in English and Afrikaans,
- (iii) and, lastly, the use of a possessive concord clitic and a possessive pronoun for the equivalent of possessive pronouns in Afrikaans and English.

In isiXhosa, reciprocity and reflexivity are thus indicated by means of inflection on the verb. In terms of root-based morphology these inflectional affixes seem to function like all other derivational suffixes in isiXhosa (Du Plessis & Visser 1992:41). As stated in (ii) above, this inflection includes the adding of the reciprocal suffix *-an-* to the verb root, while the

reciprocal element remains as the object of the sentence. The following example taken from the REALt serves as illustration of the derivation of reciprocals.

- 7.21. *Amawele anikana izipho*
Ama-wele a-nik-an-a izi-pho
 NC.6-twins SM.6-give-RECP-PRES.FV NC.8-presents
 ‘The twins are giving each other presents’¹⁰⁷

Here the reciprocal affix *-an-* undergoes the process of derivation, in which it is suffixed onto the verb root *-nik-* ‘give’ after which the verb-final vowel indicating tense is affixed as a post-suffix. Reciprocity is thus indicated by means of the derived verb form *nikana* and the object of the sentence, which remains as the NP *izipho* ‘presents’.

For reflexives in isiXhosa, the prefix (in terms of root-based morphology) or the infix (in terms of stem-based morphology) *-zi-* is added to the verb as a clitic. In contrast to English, which uses anaphoric pronouns as lexical items in the object position, isiXhosa uses a morphological marker or clitic as the anaphor, which thus leaves an empty pronominal position in the sentence. Cliticisation in isiXhosa occurs by means of objectival concord through adding a clitic as a prefix to the verb. In the verb morphology of isiXhosa, such cliticisation may only occur once, thus only one clitic may precede the host verb. Generally, the clitic may also appear with an overt and associated NP object or without an associated post-verbal position, as is the case with reciprocals and reflexives, respectively (Visser 1985:27). Despite the fact that objectival concord and reflexive cliticisation occur in complementary distribution and that a post-verbal NP is allowed with objectival concord as is the case with reciprocals (mentioned above), it is not allowed with reflexive clitics. Overt anaphors or nominals are thus not allowed in isiXhosa, and no overt lexical NP objects can occur with a clitic for reflexives (Visser 1985:28). Visser (1985:28) thus concludes that “the reflexive formative *-zi-* is not a concord; it is also not self-evidently a pronoun [...] it is a constant or invariable formative infix which retains the same form for all persons and classes, and in this respect differs radically from concord.” The following example from the REALt serves as an illustration of the derivation of reflexives in isiXhosa.

¹⁰⁷ The abbreviations used in the glosses above are as follows: numeral = number of agreement according to class or person; ASP = aspect; FV = final vowel; NC = noun class; OM = object agreement marker; PASS = passive; PAST = past tense; POSS = possessive agreement marker; pp = person plural; POSSPRN = possessive pronoun; ps = person singular; PPRN = personal pronoun; PRES = present tense; RECP = reciprocal marker; REFL = reflexive marker; SM = subject agreement marker.

- 7.22. *uBoxer uyazilenca*
u-Boxer u-ya-zi-lenc-a
 NC.1a-Boxer SM.1a-ASP-REFL-lick-PRES.FV
 ‘Boxer licks himself’

The derivation of the reflexive can be explained in two ways depending on whether the inflection is described in terms of a root-based or stem-based morphology. The reflexive clitic *-zi-* is either infix (in stem-based morphology) between the subject concord and the verb stem (the verb *-lenc-* ‘lick’) to render the phrase *Boxer licks himself*, or the clitic is a prefix (in root-based morphology) to the verb root and the subject concord is the pre-prefix to the reflexive clitic and the verb stem (M. Smouse, personal communication). As explained above, no overt anaphors or nominals are allowed in isiXhosa and hence there are no overt lexical NP objects which occur in this example.

Thus reflexive and reciprocal anaphors are bound clitics in isiXhosa, just as reflexive and reciprocal pronouns are bound lexical items in English and Afrikaans. Thus in all three languages, reflexives and reciprocals are subject to Principle A, but the form that the reflexive or reciprocal item takes on is different; in English and Afrikaans, there is a free standing pronoun that is bound to its governing category,¹⁰⁸ whereas in isiXhosa there is a verb-bound invariable formative infix (or prefix and suffix) which is also bound to its governing category. However, according to Chomsky (1982:78), the lexical form that reflexive and reciprocal anaphors take depends on the distribution of the type of nominal category involved. Visser (1985:26) elaborates on the form of the clitic by stating that “the clitic [...] is a nominal morpheme, not an NP category.” Accordingly, there are overt categories but also empty categories. Table 7.3 below outlines the possible distribution of nominal types in terms of overt and empty categories (Visser 1985:25).

¹⁰⁸ The governing category for A is the minimal domain containing it, its governor and an accessible subject (Haegeman 1994:241).

Table 7.3. The possible distribution of nominal types in terms of overt and empty categories (adapted from Visser 1985:25)

	Nominal types	Overt nominal category	Empty category
a)	[+ anaphor, - pronoun ¹⁰⁹]	reciprocal pronouns reflexive pronouns	NP trace
b)	[- anaphor, + pronoun]	personal pronouns	pro
c)	[+ anaphor, + pronoun]		PRO
d)	[- anaphor, - pronoun]	lexical NPs	variable

According to Chomsky (1981), empty categories refer to phonologically null elements in syntax and are of three types, namely NP trace, pro and PRO, as indicated in the table above. An NP trace occurs when the two elements in a structure have the same referential index and are thus coindexed by means of the rule Move α .¹¹⁰ PRO refers to a pronominal anaphor, which is the base-generated subject of infinitival clauses and which is subsequently coindexed with its antecedent. This coindexation occurs by the rule of control, which is one of the rules of construal in the LF component that relates antecedents and anaphors.¹¹¹ Lastly, pro does not become coindexed and has an arbitrary reference because it is the base-generated subject of a sentence which lacks an overt subject in null-subject languages (Visser 1985:24-25).

Importantly, Chomsky extends the postulation of the “empty category pro as the subject in null-subject languages to the process of cliticization” where the base structure of languages (those that accept the option of permitting clitics) behave idiosyncratically with respect to the (non)-occurrence of the post-verbal lexical NPs, whose grammatical features the clitic exhibits. The empty category pro is thus generated as an NP object in structures where the clitic does not co-occur with a post-verbal overt NP object, whose features it contains, as is the case in Afrikaans or English. Accordingly, the object pro is coindexed with the clitic (*cl*) by means of cosuperscripting where there are identical grammatical features between the clitic and pro (Visser 1985:26). In Afrikaans and English, the binding relations would thus have the base form NPⁱ INFL [_{VP} V NPⁱ] where the NP contains the grammatical features of person, number

¹⁰⁹ According to Chomsky (1981), overt nominal reciprocal and reflexive pronouns are [-pronoun]. Note the general difference between traditional grammar terms and the terms used within Binding Theory discussed in section 7.4 above. Here, [-pronoun] refers to reflexive or reciprocal elements in the form of reflexive and reciprocal pronouns, respectively, in contrast to [+pronoun] which refers to non-reflexive elements in the form of personal pronouns, for the purpose of this study. Reciprocal and reflexive pronouns thus fall under [+anaphor, -pronoun] here, despite the fact that they could fall under [+anaphor, +pronoun] if the Chomskyan definition and terms are not taken into account.

¹¹⁰ Move α is an operation which maps the D-structure (deep structure) in a sentence onto the S-structure (surface structure) of the same sentence.

¹¹¹ The rule of control is used to relate antecedents and anaphors because PRO does not have a governing category and hence is not subject to the three Binding Principles (A, B and C) (Visser 1985:25).

and gender; isiXhosa, by contrast, would have the base form NP INFL [_{VP} *clⁱ*-V *proⁱ*] where the single feature [+reflexive] is exhibited (the clitic thus does not vary in form according to person, number or gender but is rather an invariant reflexive) (Visser 1985:26,29). Thus there are overt and phonetically realised categories such as reflexive and non-reflexive pronouns (anaphors or pronouns) in English and Afrikaans, in contrast to the empty category NP trace in isiXhosa (Visser 1985:29). Accordingly, the empty category associated with the reflexive clitic *-zi-* is seen as an empty pure anaphor type similar to the NP-trace, but differing from the NP-trace in that *-zi-* is base-generated and not derived by the rule Move α . The difference between the English, Afrikaans and isiXhosa reflexives is outlined in the table below.

Table 7.4. The distribution of nominal types in terms of overt and empty categories for English, Afrikaans and isiXhosa

	Nominal types	Overt nominal category	Empty category
a)	[+ anaphor, - pronoun]	Afrikaans and English reciprocal, reflexive and possessive pronouns* ¹¹²	Move α generated: NP trace Base generated: Xhosa clitics <i>-an-</i> and <i>-zi-</i> and empty pure reflexive (anaphor)
b)	[- anaphor, + pronoun]	Afrikaans and English personal pronouns or possessive pronouns*	pro

The use of personal pronouns in isiXhosa works differently than that of reflexives and reciprocals. As is the case with English and Afrikaans, the pronoun or the NP which contains the pronoun can occur either in the subject or in the object position of the sentence in isiXhosa. In contrast to English and Afrikaans, in which pronouns are lexical items, isiXhosa does not use a syntactic lexical item, but rather a morphological marker or clitic as the subject or object marker (the pronoun) by means of prefixing the subjectival and/or objectival concord to the verb. In the case of personal pronouns, the objects only fall within the noun classes which are [+human], thus noun classes 1 and 2, as shown in Table 7.5 below.

¹¹² *Where the categorisation of possessive pronouns is dependent on context and whether the antecedent is locally governed or free.

Table 7.5. The distribution of subjectival and objectival concord on the verb for personal pronouns in isiXhosa

Person and Noun classes	Subject concord in isiXhosa	Object concord in isiXhosa	Subject pronoun in English	Object pronoun in English
1 st person sg.	<i>ndi-</i>	<i>-ndi-</i>	<i>I</i>	<i>me</i>
2 nd person sg.	<i>u-</i>	<i>-ku</i>	<i>you (sg.)</i>	<i>you (sg.)</i>
1 st person pl.	<i>si-</i>	<i>-si-</i>	<i>we</i>	<i>us</i>
2 nd person pl.	<i>ni-</i>	<i>-ni-</i>	<i>you (pl.)</i>	<i>you (pl.)</i>
1	<i>u-</i>	<i>-m-</i>	<i>he /she / it</i>	<i>him / her / it</i>
2	<i>ba-</i>	<i>-ba-</i>	<i>they</i>	<i>them</i>

Examples (7.23) to (7.28) use the phrase *I love ...* in isiXhosa to illustrate how five of the six person clitics are prefixed to the verb to express the equivalent of English and Afrikaans personal pronouns. The clitic for *me* is illustrated in example (7.28) by means of the phrase *You love me* in order to avoid the reflexive construction *I love myself*.

- 7.23. *Ndiyakuthanda*
Ndi-ya-ku-thand-a
 SM.1ps-ASP-OM.2ps-love-PRES.FV
 ‘I love you (sg.)’
- 7.24. *Ndiyasithanda*
Ndi-ya-si-thand-a
 SM.1ps-ASP-OM.1pp-love-PRES.FV
 ‘I love us’
- 7.25. *Ndiyanithanda*
Ndi-ya-ni-thand-a
 SM.1ps-ASP-OM.2pp-love-PRES.FV
 ‘I love you (pl.)’
- 7.26. *Ndiyamthanda*
Ndi-ya-m-thand-a
 SM.1pp-ASP-OM.1-love-PRES.FV
 ‘I love him/her/it’
- 7.27. *Ndiyabathanda*
Ndi-ya-ba-thand-a
 SM.1pp-ASP-OM.2-love-PRES.FV
 ‘I love them’
- 7.28. *Uyandithanda*
U-ya-ndi-thand-a
 SM.2ps-ASP-OM.1ps-love-PRES.FV
 ‘You love me’

Possessive pronouns in isiXhosa, which have the determiner function in the REALt, do not occur as verbal clitics as is the case with reflexives, reciprocals and personal pronouns but as loose-standing lexical pronouns created by means of a derivational process. In order to create a possessive pronoun, the possessive agreement marker is prefixed to the pronoun stem. The pronoun stem stays invariant while the possessive agreement depends on the noun which is being described and the noun class of that noun. The possessive agreement applicable to the particular noun class is then added to the invariant pronoun stem. Because the possessive agreement is dependent on the noun class of the noun being modified, the possessive agreement marker belonging to the corresponding noun class is chosen and added to the pronoun stem. The table below shows all possible possessive pronouns formed by this derivation.

Table 7.6. Possessive pronouns per noun class and person (Sibula 2009:33)

Noun class number	Possessive agreement marker	-m 'my'	-ithu 'our'	-kho 'your' (sg.)	-inu 'your' (pl.)	-khe 'his/her'	-bo 'their'
1	wa-	wam	wethu	wakho	wenu	wakhe	wabo
2	ba-	bam	bethu	bakho	benu	bakhe	babo
1/1a	wa-	wam	wethu	wakho	wenu	wakhe	wabo
2/2a	ba-	bam	bethu	bakho	benu	bakhe	babo
3	wa-	wam	wethu	wakho	wenu	wakhe	wabo
4	ya-	yam	yethu	yakho	yenu	yakhe	yabo
5	la-	lam	lethu	lakho	lenu	lakhe	labo
6	a-	am	ethu	akho	enu	(w)akhe	(w)abo
7	sa-	sam	sethu	sakho	senu	sakhe	sabo
8/10	za-	zam	zethu	zakho	zenu	zakhe	zabo
9	ya-	yam	yethu	yakho	yenu	yakhe	yabo
11	lwa-	lwam	lwethu	lwakho	lwenu	lwakhe	lwabo
14	ba-	bam	bethu	bakho	benu	bakhe	babo
15	kwa-	kwam	kwethu	kwakho	kwenu	kwakhe	kwabo

The noun *igama* 'name' falls in noun class five, thus the possessive agreement marker, which is applicable to noun class five (*la-*) is added to the pronoun stem to render the isiXhosa equivalent of a possessive pronoun. The possessive pronoun in isiXhosa is thus expressed as illustrated in examples (7.29) to (7.34) below.

7.29. *Igama lam*
I-gama la-m
 NC.5-name POSS.5-PPRN.1ps
 'My name'

7.30. *Igama lethu*
I-gama la-ithu
 NC.5-name POSS.5-PPRN.1pp
 'Our name'

- 7.31. *Igama lakh*
I-gama la-kho
 NC.5-name POSS.5- PPRN.2ps
 ‘Your (sg.) name’
- 7.32. *Igama lenu*
I-gama la-inu
 NC.5-name POSS.5- PPRN.2pp
 ‘Your (pl.) name’
- 7.33. *Igama lahke*
I-gama la-hke
 NC.5.-name POSS.5- PPRN.3ps
 ‘His/her name’
- 7.34. *Igama labo*
I-gama la-bo
 NC.5-name POSS.5- PPRN.3pp
 ‘Their name’

Whereas the possessive pronoun precedes the noun in English and Afrikaans, in isiXhosa it follows directly after the noun (Sibula 2009:22). Note that, in isiXhosa, the third person singular is not differentiated in terms of gender and therefore *igama lahke* in example (7.33) can refer to either *his name* or *her name*.

7.5 Binding relations in the REALt: General information

The REALt contains items that target the comprehension and production of anaphors. This section will outline the different rules that are tested by the REALt and how the items in the REALt are set up to do so. The section will also explain the scoring system used in the present study for each type of binding item along with the analysis of each item set.

The REALt includes four different construction types which contain binding relations: reflexive, reciprocal, personal and possessive. The reflexives, reciprocals and personal pronoun constructions all have a comprehension and a production set while the possessive pronouns, as well as the *self*-less reflexives in Afrikaans (see section 7.6.1 below), only have a comprehension set. The following table indicates the different types and sets applicable to the constructions containing binding relations.

Table 7.7. Summary of binding types and sets

Binding types	Subtypes	Sets	Nr. of items
Reflexives	<i>Self-reflexives</i>	Comprehension	4 items
		Production	5 items
	<i>Self-less reflexives (Afr only)</i>	Comprehension ¹¹³	3 items
Reciprocals	n/a	Comprehension	2 items
Personal		Production	2 items
		Comprehension	3 items
Possessive		Production	3 items
		Comprehension	3 items
			22/25 items

7.6 Comprehension of binding relations

7.6.1 Types of binding relations assessed in the comprehension set




For the comprehension of anaphora, the REALt focuses on the identification of four types of anaphoric expressions by testing the four different pronouns discussed in the section above, namely reciprocal, possessive, reflexive, and personal pronouns, by means of a 12-item picture selection task for English and isiXhosa. All 12 items used in the isiXhosa and English assessment were used in the Afrikaans assessment. The Afrikaans assessment has subitems (a and b) for three items, where these items contain the *self* reflexive subtype in one subitem and the *self-less* reflexive subtype (which takes on the same form as the personal pronoun in Afrikaans) in the other subitem. The English and isiXhosa assessment only have one stimulus per item here as the *self-less* reflexive does not occur in English or isiXhosa.

In the picture selection task assessing comprehension, the learner is presented with a verbal stimulus to which s/he has to respond by choosing one of three pictures, namely the one that matches the stimulus. One of these pictures is the target picture, while a second picture serves as an opposer, and a third picture serves as a distracter.

¹¹³ The *self-less* reflexives in Afrikaans only have a comprehension set and not a production set as it is not possible to create a scenario where a child will definitely use the *self-less* reflexive. It is up to the child to choose which one of the two s/he will use. While children might be able to produce both or either of the two, one cannot purposefully elicit a *self-less* reflexive.

Four items focus on eliciting a response in terms of reflexive pronouns. The item in Table 7.8 below illustrates how reflexive pronouns are assessed and how the opposer and distracter pictures function.

Table 7.8. Example of reflexive pronoun items in English

Show me: Pam is washing herself			
Stimulus	Picture 1 (distracter): Pam and Thandi are washing them (the dolls).	Picture 2 (opposer): Pam is washing her (Thandi).	Picture 3: Target
Pictures			

In this item, the third picture is the target as the response requires a pronoun which reflects Principle A, where a reflexive pronoun (anaphor) must be bound in its local domain. In this case, the pronoun *herself* is bound by the NP *Pam* in its local domain. Picture 2 is the opposer as the pronoun that one would use to describe the picture (namely *Pam is washing her*) is a personal pronoun and not a reflexive pronoun but still refers to the same gender and number (female and singular) as the stimulus pronoun *herself*. In terms of c-command, the reference of the pronoun *her* reflects Principle B where a non-reflexive pronoun must be free (unbound) in its local domain. In picture 2, the pronoun *her* receives an exophoric reference (from the other girl in the picture, *Thandi*, which could replace the pronoun *her*) because the pronoun is free in its local domain.

In items such as that in Table 7.8 above, there is only one NP which the learners can choose to select as the antecedent. This is also the case for the two items containing the reciprocal pronoun *each other* where the antecedent can only be the subject of the clause, as illustrated below.

7.35. *The circus monkeys_i are eating each other_i's bananas*

7.36. *The twins_i are giving each other_i presents*

The comprehension of these items is straightforward in comparison to those three in which reflexive pronouns and two other NPs occur in the stimulus. Thus the learner now has to

identify which one of the two NPs reflects Principle A and which one reflects Principle B. Learners must thus select the correct antecedent and the picture which represents this antecedent in terms of reference to Principle A.

Three items entail the use of possessive pronouns and here the principles which apply are not as clear cut as in the case of reflexives and reciprocals. In the item given in example (7.37), for instance, Principle A is applicable as the pronoun *their* is bound in its local domain, despite the fact that *their* is not a reflexive pronoun.¹¹⁴

7.37. [*Boxer_i drooled*][*as the cats_j ate their_j food*]

In this case, the target picture reflects Principle A while the opposer and distracter pictures reflect Principle B. However, in the following two items, Principle B is applicable as the pronoun *his* or *her* is not bound in its local domain and is thus free.

7.38. [*Mr Zulu_i watched*] [*as the boys_j wrote in his_i book*]




7.39. [*Granny Gogo_i smiled*] [*while the girls_j washed her_i face*]

In this case, the target picture reflects Principle B while the opposer and the distracter pictures reflect Principle A. In the item given in example (7.39) above, the learners must, for example, distinguish between two meanings that *her face* may have (namely the face of Granny Gogo or that of an unnamed female entity). Here, *her face* can only refer to Granny Gogo's face as there is no one except Granny Gogo and the girls depicted in any of the three pictures and as the number of the pronoun *her* does not agree with the number of the NP *the girls*, and according to Hamann (2011:251) the feature specification of the pronominal element in terms of person, number, gender and case plays a significant role in determining the referential antecedent.

Another three items, by contrast, are illustrative of the use of personal pronouns where the opposite rule to that for reflexives and reciprocals applies. The target picture in these three items requires the use of Principle B where the pronoun must be unbound in its local domain, as illustrated in Table 7.9 below.

¹¹⁴ Recall from footnote 106 that one problem with Binding Theory is that it does not include an analysis of possessive pronouns. The analysis here thus works on the assumption that possessive pronouns will most of the time act as pronominals and be subject to Principle B (see Oosthuizen 2013:chapter 2).

Table 7.9. Example of personal pronoun items in English

Show me: The dogs stand in the road as the boys pat them			
Stimulus	Picture 1 (opposer): The boys pat themselves	<u>Picture 2: Target</u>	Picture 3 (distracter): The boys point at them (the dogs).
Pictures			

In this item, the second picture is the target as the response requires a pronoun which reflects Principle B where a pronoun must be unbound in its local domain. In picture 2, the pronoun *them* receives reference from the NP *the dogs* where the pronoun is free in its local domain (the domain in which *the boys* occurs). Picture 3 is the distracter as a different verb is used despite the fact that Principle B applies: the pronoun *them* does not receive its reference from *the boys* but rather from *the dogs*. Picture 1 is the opposer as the pronoun used is a reflexive pronoun and not a personal pronoun but still refers to the same number (plural) as the personal pronoun would have. In terms of c-command, the reference of the pronoun *themselves* reflects Principle A where an anaphor must be bound in its local domain. In this case, the local domain of the pronoun *them* is the one in which the NP *the boys* occurs.

As previously mentioned, the assessments are the same for English and isiXhosa and therefore only English examples have been included thus far. The following examples outline how the Afrikaans assessment differentiates between personal pronouns and *self*-less reflexive pronouns. Three items pertain to *self*-less reflexives, and the item in Table 7.10 below is used here as an illustrative example of these. The personal pronoun in the item below is however included in order to disambiguate by means of the picture context.

In the case of the item in Table 7.10, the target picture, picture 2, depicts the use of the personal pronoun in Afrikaans, while picture 3 depicts the opposer in the form of the *self*-less reflexive in Afrikaans and picture 1 depicts the distracter. In the item in Table 7.11, the target picture, picture 1, depicts the use of the *self*-less reflexive in Afrikaans, while picture 2 depicts the opposer in the form of the personal pronoun in Afrikaans and picture 3 depicts the distracter.

Table 7.10 Example of personal pronoun items in Afrikaans







Show me: Die honde staan in die straat terwyl die seuns hulle vryf. ‘The dogs stand in the road as the boys pat them.’ PERSONAL PRONOUN			
Stimulus	Picture 1: Die seuns wys na die honde. ‘The boys point at the dogs’	Picture 2: Target	Picture 3: Die kinders vryf hulle(self) ‘The children pat themselves’
Pictures			

Table 7.11 Example of self-less reflexive pronoun items in Afrikaans

Show me: Die honde staan in die straat terwyl die seuns hulle vryf. ‘The dogs stand in the road as the boys pat themselves’. SELFLESS REFLEXIVE PRONOUN			
Stimulus	Picture 1: Target	Picture 2: Die kinders vryf die honde ‘The children pat the dogs’	Picture 3: Die seuns wys na die honde. ‘The boys point at the dogs’
Pictures			

In conclusion, for all three languages concerned, the binding relations comprehension task comprises a picture selection task in which the child has to choose between a picture depicting the correct binding principle (A or B), one depicting the other binding principle (B or A), and a less related distracter. Reflexive, reciprocal, personal and possessive pronouns are assessed in this manner.

7.6.2 Scoring of binding relation comprehension items

In the comprehension task, the response was taken to be either correct or incorrect: a target answer was thus awarded a (1), and an incorrect response was scored as 0 (1) when the opposer was chosen as a response and as 0 (2) when the distracter was chosen.¹¹⁵ When there were no data available for a learner – due to the learner being absent or because the test was not completed so as to not cause the poorly performing learner any distress – or where the child did not provide a response, the item was scored with a (0).

7.6.3 Results: Binding relation comprehension¹¹⁶

7.6.3.1 Afrikaans

The data for the Afrikaans binding types and comprehension set is made up of 27 participants' responses. The average percentage correct was between 44% and 74% for all four constructions in Phase 1 of testing (February/March) and higher (between 56% and 93%) in Phase 2 (October/November) (see Table 7.12).

Table 7.12. Comparison of Afrikaans comprehension Phase 1 and Phase 2 descriptive and non-parametric statistics: Binding relations

Variable	Afrikaans - Phase 1 Descriptive Statistics Comprehension				Afrikaans - Phase 2 Descriptive Statistics Comprehension				Phase 1 vs. 2 (Wilcoxon Matched Pairs Test; direction as indicated by Box and Whiskers plots)	
	Mean %	Min %	Max %	Std. dev.	Mean %	Min %	Max %	Std. dev.	p-value for comparison of Afrikaans Phases 1 and 2	% difference between mean scores
Reflexive pronouns	62	25	100	0.281	69	25	100	0.223	0.2012	7
Possessive pronouns	58	0	100	0.286	70	33	100	0.214	0.1930	12
Self-less reflexive pronouns	44	0	66	0.226	54	33	100	0.209	0.0840	10
Personal pronouns	59	0	100	0.282	59	33	100	0.250	0.7960	0
Reciprocal pronouns	74	0	100	0.350	93	50	100	0.181	0.0244	19
Comprehension TOTAL score	58	33	87	0.148	68	47	87	0.105	0.0058	10

¹¹⁵ The distinction between the two incorrect responses (opposer and distracter) cannot be made in terms of the binding principles, as both incorrect response types reflect the unwanted binding principle. If the target response required Principle A, then both non-target responses would reflect Principle B. The distinction between the opposer and the distracter responses is made in terms of which pronoun is the closest to the target pronoun in terms of number, gender and person.

¹¹⁶ Error analysis, as done in terms of the comprehension set of articles (chapter 5), was not included for binding relations as no pattern was evident in the analysis between opposer and distracter responses.

The Afrikaans participants seemed to fare well with reciprocal, reflexive and possessive pronouns and less well with *self*-less reflexive pronouns and personal pronouns in both phases. There was a statistically significant difference between the Phase 1 and Phase 2 scores for all pronouns combined. When considered individually, though, only reciprocal pronouns showed significant development from Phase 1 to Phase 2. None of the pronoun types were acquired fully at the start or the end of Gr 1, with the exception of reciprocal pronouns which were acquired fully by the end of Gr 1 as the average percentage correct was 93%.

7.6.3.2 English

The data for the English binding comprehension set comprise 31 participants' responses. The average percentages correct ranged from 30% to 49% for all four constructions in Phase 1 of testing and from 42% to 58% in Phase 2 (see Table 7.13). Participants seemed to fare less well with reflexive pronouns in comparison to the other pronouns in Phase 1. In Phase 2, participants fared less well with personal pronouns in comparison to the other pronouns. Reflexive, possessive and reciprocal pronoun types showed some development from Phase 1 to Phase 2 (whereas the scores for personal pronouns decreased slightly); however, the development was only statistically significant for reflexive pronouns. None of the pronoun types were acquired fully at the start or the end of Gr 1, i.e., none of the average percentages correct were above 90%.

Table 7.13. Comparison of English comprehension Phase 1 and Phase 2 descriptive and non-parametric statistics: Binding relations

Variable	English - Phase 1 Descriptive Statistics Comprehension				English - Phase 2 Descriptive Statistics Comprehension				Phase 1 vs. 2 (Wilcoxon Matched Pairs Test; direction as indicated by Box and Whiskers plots)	
	Mean %	Min %	Max %	Std. dev.	Mean %	Min %	Max %	Std. dev.	p-value for comparison of English Phases 1 and 2	% difference between mean scores
Reflexive pronouns	30	0	75	0.269	54	25	100	0.267	0.0010	24
Possessive pronouns	49	0	100	0.256	57	0	100	0.261	0.1475	8
<i>Self</i> -less reflexive pronouns	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Personal pronouns	44	0	100	0.303	42	0	100	0.310	1.0000	-2
Reciprocal pronouns	42	0	100	0.389	58	0	100	0.367	0.1165	16
Comprehension TOTAL score	40	8	67	0.151	52	17	92	0.183	0.0020	12

7.6.3.3 isiXhosa

The data for the isiXhosa binding types and comprehension set consist of 31 participants' responses. For the isiXhosa comprehension set of binding, the average percentage correct was between 59% and 80% for the four pronoun types in Phase 1 and between 54% and 87% in Phase 2 (see Table 7.14). Participants seem to fare better on reflexive and reciprocal pronouns than on the other pronouns in both phases. For reflexive, possessive and reciprocal pronouns, Phase 2 scores were higher than Phase 1 scores; the opposite was the case for personal pronouns. None of the differences between Phase 1 and 2 scores were, however, statistically significant. No pronoun type was fully acquired at the start or at the end of Gr 1 as all of the average percentages correct were below 90%.

Table 7.14. Comparison of isiXhosa comprehension Phase 1 and Phase 2 descriptive and non-parametric statistics: Binding relations

Variable	isiXhosa - Phase 1 Descriptive Statistics Comprehension				isiXhosa - Phase 2 Descriptive Statistics Comprehension				Phase 1 vs. 2 (Wilcoxon Matched Pairs Test; direction as indicated by Box and Whiskers plots)	
	Mean %	Min %	Max %	Std. dev.	Mean %	Min %	Max %	Std. dev.	p-value for comparison of isiXhosa Phases 1 and 2	% difference between mean scores
Reflexive Pronouns	80	25	100	0.218	87	25	100	0.184	0.1914	7
Possessive Pronouns	63	0	100	0.199	70	33	100	0.163	0.1925	7
Self-less Reflexive Pronouns	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Personal Pronouns	59	0	100	0.295	54	0	100	0.258	0.4997	-5
Reciprocal Pronouns	71	0	100	0.310	84	50	100	0.235	0.05054	13
Comprehension TOTAL Score	69	25	92	0.149	74	50	92	0.095	0.1246	5

7.7 Production of binding relations




7.7.1 Types of binding relations assessed in the production set

For the production of anaphora, the REALt focuses on the identification of three types of anaphoric expressions, by testing only three of the four different pronouns discussed in the comprehension section, namely reciprocal, reflexive, and personal pronouns, by means of a 10-item sentence completion task for Afrikaans and English. During the sentence completion task, the researcher provides the learner with the first part of the sentence and the learner has to complete the sentence by providing the correct or an appropriate pronoun that will render an

apt description of a specific picture. The production of binding relations was not assessed for isiXhosa, because it is not possible for the test administrator to produce a prompt that can elicit such production by the child without including a significant part of the binding-related answer that one wants the child to produce. This inability to assess the production of anaphora is especially due to the fact that, in isiXhosa, anaphoric expressions are produced by firstly adding clitics to the main verb (which would have had to be provided by the researcher as part of the prompt) and secondly having an empty pronominal object position in the case of reflexives and reciprocals (which would entail the learner not producing something instead of producing something).

The following three items from the English version of the REALt illustrate how reflexive, personal and reciprocal pronouns are elicited in the production section of the Afrikaans and English versions of the REALt.

Table 7.15. Examples of reflexive, personal and reciprocal pronoun items in English

Stimulus	Target	Picture
Stevie is feeding ...	himself	
Stevie is scared because the dog is chasing ...	him	
The ringmasters are watching as the clowns kick ...	each other	

In all three cases of eliciting the pronouns in production, the learner must first understand how each binding principle works and then apply the principle to the selection of the correct lexical item – not only in terms of the type of pronoun used but also the correct form of the pronoun in terms of number and gender. In the case of production, as in the case of comprehension, Principle A underlies the use of reflexive and reciprocal pronouns whereas Principle B underlies the use of personal pronouns in Afrikaans and English.

7.7.2 Scoring of binding relation production items

Binding production responses were taken to be either correct or incorrect. The scoring for this type of item was thus done by scoring the target answer with a (1) while any incorrect response was scored as (0). If a preposition was added in the Afrikaans production responses, such as *vir hom* ‘for him’, *vir mekaar* ‘for each other’, *vir haarself* ‘for herself’, then the response was still scored as correct as such insertion is grammatical. If the learner provided the wrong pronoun type (hence applying the wrong binding principle), the response was scored as incorrect. If the learner repeated the given NP or provided another NP – such as *Stevie* or *the clown*, *her arm*, *the teddybear* – instead of a pronoun, the response was also scored as incorrect as it is not clear whether the learner indeed knows how to apply the different binding principles when having to produce the pronoun. If the correct binding type was provided but the number or gender was not correct, the response was scored as incorrect. For example, if the reflexive pronoun *himself* was required and *herself* was provided, the response would be scored as incorrect. Irrelevant responses or a description of the picture without the use of any of the binding principles was also scored as incorrect (i.e., *he is scared* or *she is playing*). When no data were available for a learner (due to learner absenteeism or discontinuation in order not to cause poorly performing learners undue distress) or if the child did not provide a response, the items were also scored with a (0).

7.7.3 Results: Binding relation production

7.7.3.1 Afrikaans

The data for the Afrikaans binding production set consist of 27 participants’ responses. For the Afrikaans, only three pronoun types containing binding relations were administered, namely reciprocal, reflexive and personal pronouns. The average percentage correct was between 33% and 72% in Phase 1 (February/March) and between 20% and 81% in Phase 2

(October/November) (see Table 7.16). Participants seemed to fare well with personal pronouns and less well with reflexive and reciprocal pronouns in both phases. The difference between the Phase 1 and Phase 2 scores was significant for personal pronouns, with Phase 2's score being higher than that of Phase 1, thus indicating development in this aspect from Phase 1 to Phase 2. The scores of the two phases also differed significantly for reflexive pronouns, but regression took place from Phase 1 to Phase 2. None of the pronoun types were fully acquired by the end of Gr 1 as average percentages correct were below 90%.

Table 7.16. Comparison of Afrikaans production Phase 1 and Phase 2 descriptive and non-parametric statistics: Binding relations

Variable	Afrikaans - Phase 1 Descriptive Statistics Production				Afrikaans - Phase 2 Descriptive Statistics Production				Phase 1 vs. 2 (Wilcoxon Matched Pairs Test; direction as indicated by Box and Whiskers plots)	
	Mean %	Min %	Max %	Std. dev.	Mean %	Min %	Max %	Std. dev.	p-value for comparison of Afrikaans Phases 1 and 2	% difference between mean scores
Personal pronouns	72	0	100	0.288	81	0	100	0.267	0.1252	9
Reflexive pronouns	33	0	80	0.192	20	0	80	0.215	0.0288	-13
Reciprocal pronouns	24	0	100	0.290	35	0	100	0.334	0.2348	11
Production TOTAL score	43	0	90	0.181	41	10	80	0.166	0.6272	-2

7.7.3.2 English

The data for the English binding types and production comprise 27 participants' responses. The average percentage correct ranged from 2% to 20% for reciprocal, reflexive and personal pronouns in Phase 1 and from 37% to 61% in Phase 2 (see Table 7.17). As was the case for Afrikaans, participants seem to fare better with personal pronouns than with reflexive and reciprocal pronouns in both Phase 1 and Phase 2. That said, the difference between the scores obtained in Phase 1 and Phase 2 was significant for all three pronoun types, with Phase 2 scores being higher than Phase 1 scores. None of the pronoun types were fully acquired by the end of Gr 1.

Table 7.17. Comparison of English production Phase 1 and Phase 2 descriptive and non-parametric statistics: Binding relations

Variable	English - Phase 1 Descriptive Statistics Production				English - Phase 2 Descriptive Statistics Production				Phase 1 vs. 2 (Wilcoxon Matched Pairs Test; direction as indicated by Box and Whiskers plots)	
	Mean %	Min %	Max %	Std. dev.	Mean %	Min %	Max %	Std. dev.	p-value for comparison of English Phases 1 and 2	% difference between mean scores
Personal pronouns	20	0	100	0.281	61	0	100	0.334	0.0001	41
Reflexive pronouns	10	0	60	0.199	37	0	100	0.389	0.0008	27
Reciprocal pronouns	2	0	50	0.090	45	0	100	0.435	0.0002	43
Production TOTAL score	11	0	60	0.169	46	0	100	0.321	0.0000	35

7.8 Comparison of binding relations for English- and isiXhosa LOLT

A comparison between the performance of the English LOLT and the isiXhosa LOLT groups shows that there is a clear distinction between the comprehension skills of learners with English as LOLT and those with isiXhosa as LOLT for constructions containing binding relations. (Recall that no comparison between the English and isiXhosa groups is possible for the production of binding relations as isiXhosa production of constructions containing binding relations could not be tested.) For each binding and pronoun type, the learners with isiXhosa as LOLT fared better than those with English as LOLT. There is a statistically significant difference, as indicated by the p-values obtained (Mann-Whitney U test; see Table 7.18 below), between the Phase 1 scores of the English and isiXhosa groups in terms of reflexive, reciprocal and possessive pronouns, and between the Phase 2 scores of the two groups for reflexive and reciprocal pronouns. Despite the fact that the isiXhosa group still fared better than the English group at the end of Gr 1, the English group seemed to have a level of comprehension of possessive and personal pronouns that is closer to that of the isiXhosa group at the end of Gr 1: At the end of Grade 1, there is still a difference between the two scores, but not a significant difference. The difference between the two groups remains significant for reflexive and reciprocal pronouns at the end of Gr 1 though.

Table 7.18. Results of Mann-Whitney U Test for English and isiXhosa Phase 1 and 2 for all binding comprehension types tested by the REALt: Binding relations

	p-value for comparison of English Phase 1 with isiXhosa Phase 1 Comprehension	p-value for comparison of English Phase 2 with isiXhosa Phase 2 Comprehension	Box and Whiskers plots indicate:
Reflexive pronouns	0.0000	0.0000	isiXhosa > Eng
Reciprocal pronouns	0.0059	0.0088	isiXhosa > Eng
Possessive pronouns	0.0210	0.0623	isiXhosa > Eng
Self-less reflexive pronouns	n/a	n/a	n/a
Personal pronouns	0.0727	0.0917	isiXhosa > Eng
Comprehension TOTAL score	0.0000	0.0000	isiXhosa > Eng

Despite the fact that comprehension of possessive and personal pronouns did not differ significantly between the English and isiXhosa groups, the total comprehension score did, in both phases. There is thus still a statistically significant difference between the two groups in terms of their comprehension of constructions containing binding relations at the end of Gr 1, as indicated in the following figure which shows the Box and Whiskers plots for the total binding comprehension scores for the English and isiXhosa groups for Phase 2.

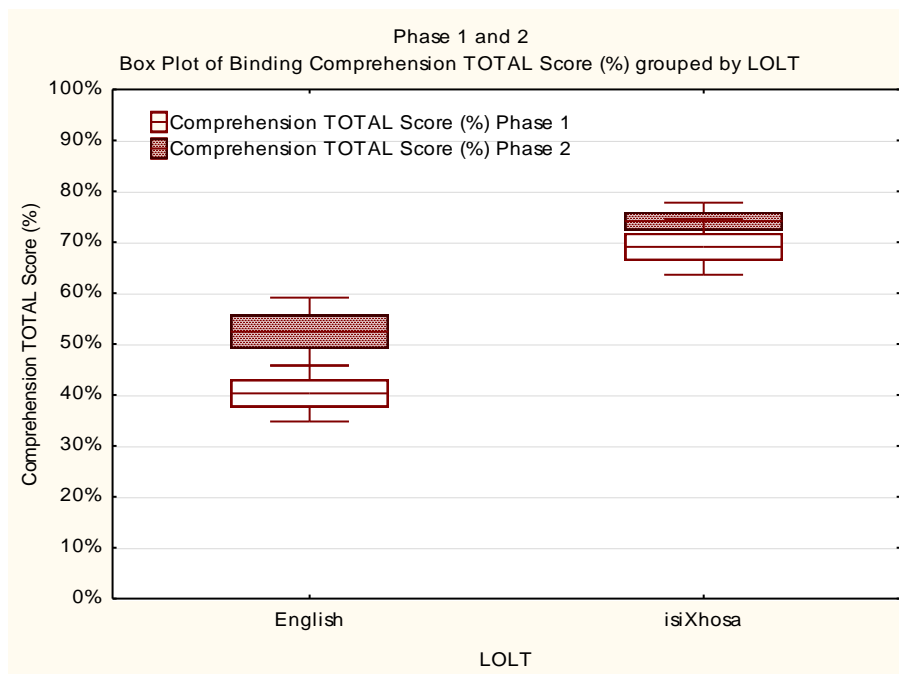


Figure 7.2 The comprehension total scores of all binding relation types (%) grouped according to LOLT

7.9 Conclusion

From the literature reviewed on the development of binding relations in child language (see section 7.3), it is clear that binding relations have been studied from a range of perspectives and with a variety of foci. The main focus of this chapter was on how and when children acquire the different principles outlined in Binding Theory. There is a general consensus that the concept of ‘c-command’ provides the basis on which Principles A, B and C are acquired. Directionality, command and coreference are intrinsically linked to the fact that children are consulting general principles relevant to the grammar they are constructing (Lust 1986:73), while syntax and pragmatics both play an important role in creating constraints on binding relations (Hamann 2011:248).

In terms of comprehension, children tend to find binding relations related to reflexives and NPs easier than those related to personal pronouns (see Hamann (2011:247)). In this regard, Grimshaw and Rosen (1990:187) state that children find the application of Principle B but also Principle C more difficult to some extent than that of Principle A. Children thus tend to apply Principle A earlier than Principle B as the latter develops later than the former (which is in accordance with the Delay of Principle B Effect). Principle A seems to be acquired from the age of 3 till approximately the age of 6;6 (where a ceiling effect starts to be noticed) while studies based on the same methodology used for Principle A have shown that performance on personal pronouns (Principle B) is not yet perfect at age 6;6.

Generally, the acquisition of Principle A also precedes the acquisition of Principle B in production. It has however been found that children fare better with Principle B than A when the stimulus includes quantifier NPs like *all the children* or *every child*. Children can also fare better in production than in comprehension tasks, because in production tasks the reflexive can be replaced by the full NP which is given as the subject in the stimulus. Lastly, the discrepancy between performance results of Principles A and B is not necessarily a direct reflection of the presence or lack of grammatical knowledge but may also be influenced by different, extralinguistic factors.

Table 7.19 below provides a summary of the age of acquisition according to the literature reviewed as well as the data obtained from the current study.

Table 7.19. Comparison of age of acquisition in the relevant literature, results obtained by Southwood and Van Dulm (2012b) and the results of the current study

Age of acquisition according to literature	Age of acquisition according to REALt		Age and order of acquisition according to data					
	Afrikaans	English	Afrikaans		English		isiXhosa	
Comprehension								
after 6	5 and older	4 and older	Reciprocal	end of Gr 1 (6;9-8;3)	Reciprocal	only after (6;9-8;2)	Reciprocal	only after (6;10-9;7)
			Reflexive	only after (6;9-8;3)	Possessive		Reflexive	
			Personal		Reflexive		Possessive	
			Possessive		Personal		Personal	
			<i>Self-less reflexive</i>		n/a			
Production								
n.i.	9 and older	4 and older	Personal	only after (6;9-8;3)	Personal	only after (6;9-8;2)	n/a	
			Reciprocal		Reciprocal			
			Reflexive		Reflexive			

In the current study, the results indicate that binding relations involving reflexive, possessive, and personal pronouns in all three participant groups are later developing and have not yet been mastered by the end of Gr 1 (seeing that the participants did not obtain a percentage of correct responses above 90% at the end of Gr 1). Regarding the comprehension of binding relations involving reciprocal pronouns, this is only acquired by the end of Gr 1 for the Afrikaans group; for the English and isiXhosa groups, it is not yet acquired by the end of Gr 1.

The order of acquisition for comprehension stated in the literature is found in the Afrikaans group's data: the Afrikaans participants fared better with binding relations involving reflexives than with those involving personal pronouns. In both Phase 1 and 2, the Afrikaans group obtained higher comprehension scores for reciprocal and reflexive pronouns than for personal and possessive pronouns, concurring that Principle A is acquired before Principle B. Note, however, that the possessive pronoun score increased from Phase 1 to Phase 2 to the same level as the reflexive score. For the comprehension of the possessive pronouns, all three the possessive pronoun stimulus items involve Principle B (see section 7.4.1). The data show that while Principle A is acquired, Principle B is also acquired; however, Principle A is further developed than Principle B at the end of Gr 1. The Afrikaans learners still fared worst with personal pronouns and *self-less* reflexives by the end of Gr 1. A possible reason why *self-less* reflexives have the lowest scores can be that *self-less* reflexive pronouns in Afrikaans are ambiguous and that the learners still have problems not only with the pronoun itself but

with the ambiguity when the target and the opposer pictures form part of the stimulus. In terms of the difference between mean scores, all pronoun types showed an increase from Phase 1 to Phase 2; however, only reciprocal pronoun scores increased significantly. Reciprocal pronouns are also the only pronouns that are mastered by the end of Gr 1.

The order of acquisition for the English group does not follow the trends outlined in the literature: At the start of Gr 1, it seems that Principle B is acquired before Principle A, because the scores for possessive and personal pronouns are higher than those for reciprocal and reflexive pronouns. The trend in the literature is however more applicable at the end of Gr 1, where reciprocal, possessive and reflexive pronouns have higher scores than personal pronouns. As was the case with the Afrikaans group, it becomes clear here that Principles A and B are acquired simultaneously but that Principle A is further developed than Principle B at the end of Gr 1. For the English group, only reflexive, reciprocal and possessive pronouns showed an increase in mean scores, and reflexive pronouns were the only pronoun type to significantly develop from the start to the end of Gr 1.

The order of acquisition for the isiXhosa group is similar to that for the Afrikaans group and also follows the trends outlined in the literature. In both Phase 1 and Phase 2, reflexive and reciprocal pronouns (reflecting Principle A) had higher scores than possessive and personal pronouns (reflecting Principle B). For the isiXhosa group, only reflexive, reciprocal and possessive pronouns showed development over the course of the Grade 1 year, but this development was not statistically significant.

The production results for the Afrikaans and English groups indicate that Principle B is acquired before Principle A. In both language groups, personal pronouns had the highest scores followed by reflexive and reciprocal pronouns. The literature states that the inverse of the expected trend (i.e., the acquisition of Principle A before Principle B) can be due to extralinguistic factors or the fact that the reflexive can be replaced by a full NP and still render a (possibly) grammatical utterance in terms of binding relations. The fact that responses of such a nature were scored as incorrect in the current study (as they did not offer proof of knowledge of binding relations) can be a reason as to why Principle A-related items had lower scores than Principle B-related items.

The comprehension results of the current study are in line with the order of acquisition stated in the literature. These results are, however, not in line with the age of acquisition stated in the literature, because the low SES Afrikaans, English and isiXhosa groups in the current study acquire Principle A some time after 6;6. No specific age of acquisition is mentioned in the literature for Principle B, so comparison between other studies and the current study could not be made.

When comparing the English LOLT and the isiXhosa LOLT scores, the isiXhosa LOLT scores are higher than the English LOLT scores. If acquisition of Principles A and B is delayed for all three groups and overall the scores are higher for the isiXhosa group, then receiving one's schooling in a language other than one's L1 could be said to add a delay to a delay in the case of the English group.

Chapter 8

Passive constructions

8.1 Introduction

This chapter will start by discussing the relevant properties of passive constructions in order to provide a backdrop against which the discussion of the literature available on L1 and L2 acquisition of passives can take place. Then a description will be provided of how passives are formed in Afrikaans, English and isiXhosa from a minimalist perspective. The chapter also describes how passives are tested by the REALt, and how the data on passives collected in the current study were scored and analysed.

8.2 Relevant properties of passive constructions

The passive construction is a derivative¹¹⁷ of a sentence in terms of the concept of ‘voice’, where voice is one of the ways in which a language expresses the relationship between a verb and the associated NPs. Two sentences can vary in terms of voice and yet have the same basic meaning (Richard & Schmidt 2010:630). There can thus be an active and a passive construction, where the active construction and the passive construction have two different word orders and in which the verb morphology of the two types of constructions differs. There is also a difference in the semantics of the active and passive voice, though, due to thematic roles associated with the verb and noun relationships mentioned above.

In Germanic languages, the passive construction generally requires a predicate (main verb, or auxiliary verb and passive participle) and two arguments – the THEME or PATIENT (the original object of the active construction, also called the “object argument”) and the AGENT (the original subject of the active construction, also called the “subject argument”, which may occur with a preposition).

¹¹⁷ Derivation in syntax involves the process of applying grammatical rules to underlying forms; for example, in deriving the S-structure from the D-structure of a sentence, the S-structure is a derivative (Richards & Schmidt 2010:163).

As explained directly below (see the distinction between agentive and agentless passives), the AGENT¹¹⁸ is sometimes not mentioned explicitly in the passive construction. The syntactic positions and thematic roles relevant to the active and passive voice are outlined below.

Active voice: <i>Structural subject position</i>	<i>Verb position</i>	<i>Structural object position</i>
AGENT	PREDICATE	THEME / PATIENT
(subject argument)	Main verb / Aux and main verb	(object argument)

Passive voice: <i>Structural subject position</i>	<i>Verb position</i>	<i>Structural object position</i>
THEME / PATIENT	PREDICATE	(preposition +) AGENT
(object argument)	Language specific change in verb- morphology (AUX + passive participle)	(subject argument)

Three types of passive constructions will now briefly be discussed, namely agentive passives, agentless passives and reversible passives. Due to the optionality of the subject argument in passive constructions, there are agentless passives (also called “short passives”) and agentive passives (also called “full passives” or “heavy/long AGENT passives”). The sentence structures associated with each of these passives are illustrated in (8.1) for agentless passives and example (8.2) for agentive passives.

8.1. [[THEME/PATIENT][AUX verb + passive participle]]

8.2. [[THEME/PATIENT][AUX verb + passive participle][preposition + AGENT]]

As stated by Horgan (1978 in Southwood & Van Dulm 2012b:47), some agentive passives are so-called “reversible passives”, where the following formula is applicable:

8.3. (a) [[THEME (A)][AUX + passive participle][preposition + AGENT (B)]]
e.g., *John is seen by Thandi*

(b) [[THEME (B)][AUX + passive participle][preposition + AGENT (A)]]
e.g., *Thandi is seen by John*

¹¹⁸ Potgieter (2014) explains that, according to Alexiadou and Anagnostopoulou (2007:2), the argument in the *by*-phrase of an English passive sentence can be (i) an AGENT, e.g., *John* in *The window was broken by John*, (ii) a CAUSER, i.e. a natural force such as *the storm* in *The window was broken by the storm*, (iii) an INSTRUMENT, e.g., *a stone* in *The window was broken with a stone*, (iv) a CAUSING EVENT, e.g., *Will's banging* in *The window was shattered by Will's banging*, or (v) an EXPERIENCER, e.g., *Mr Zulu* in *The school children were recognised by Mr Zulu*.

Irreversible passives would be passive constructions in which the reversal of the THEME/PATIENT and AGENT roles renders a semantically improbable construction, as in *The bone was swallowed by Boxer* rendering *Boxer was swallowed by the bone*.

In minimalism, the derivation from the active to the passive voice involves transformation movement operations. In English and Afrikaans, the transformation for short passives occurs when the THEME/PATIENT, which occupies the structural object position in a main clause in the active construction, firstly moves to the subject position (the specifier position of the Tense Phrase (TP)) due to multiple subject and verb raising copy and merge movements, after which it may subsequently move on to the specifier position of the CP to render the passive construction. Secondly, the auxiliary verb moves to the head position of the TP and lastly that of the CP (Southwood 2007:58). The two main movement operations are indicated in the tree diagram in Figure 8.1 below.

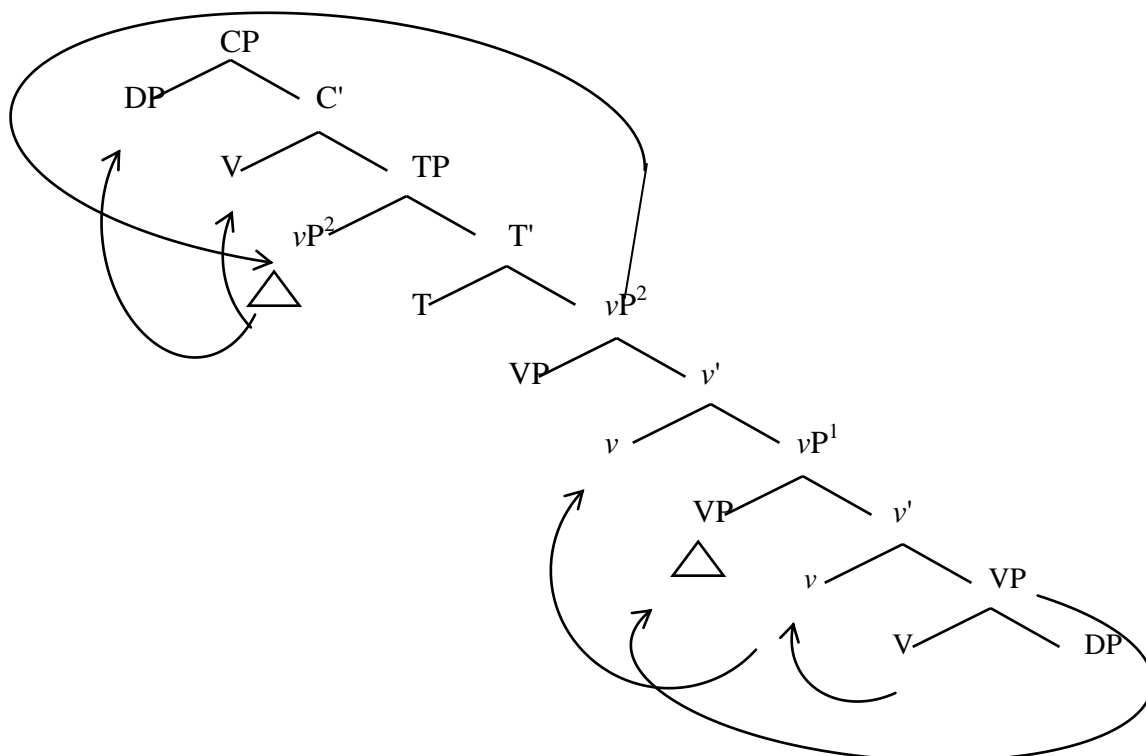


Figure 8.1. Tree diagram showing the derivation from the active to the passive voice and the transformation movement operations involved

In addition, passives can be categorised according to the verb used in the sentence, namely action, perceptual or psychological passives. Action passives include the use of a verb which indicates that some kind of action is effected, with verbs such as *to push*, *to comb*, *to play* or *to cook*. Perceptual passives can be actional but specifically involve the verbs which describe

the five senses such as *to see*, *to hear*, *to touch/to feel*, *to taste* or *to smell*. Lastly, psychological passives make use of abstract verbs pertaining to psychological states or mental processes, such as *to fear*, *to remember* or *to recognise*. The distinction between the three subtypes of passives is important not only due to the fact that the predicate may require different theta-roles (as outlined in footnote 118), but also because typically developing children acquire actional passives by the age of 5 years but psychological passives only after the age of 9 years¹¹⁹ (Maratsos, Fox, Becker & Chalkley 1985:181), even though such a difference in age of acquisition is not apparent in comparable active constructions (Hirsch & Wexler 2006:2). We now turn to how the passive construction develops in child language.

8.3 The development of passive constructions in child language

Ud Deen (2011:155) states that the passive is “arguably the most well-studied phenomenon in all of child language” and that it has been shown that children have problems with both the comprehension and the production thereof. There are two contradicting findings regarding the age of acquisition of passive constructions (Ud Deen 2011:155). The first is that there is a general and apparent delay in the acquisition of the passive (compared to that of active constructions), and the passive is generally viewed as being fully developed some time after the age of 5 years (Borer & Wexler 1987; Fox & Grodzinsky 1998; Gavarró, Parramon & Rallo 2011; Hirsh & Wexler 2006; Maratsos et al. 1985; Orfitelli 2012). The apparent delay in acquisition was initially stated for English by Bever (1970), and several other studies duplicated Bever’s results for English (Fox & Grodzinsky 1998; Gordon & Chafetz 1990; Maratsos et al. 1985; Stromswold, Eisenband, Norland, & Ratzan 2002). Similar results were also found for various other languages as outlined by Hirsch and Wexler (2006:1), including German (Bartke 2004), Greek (Terzi & Wexler 2002), Japanese (Sano 2000; Sugisaki 1998), Russian (Babyonyshev & Brun 2003) and Spanish (Pierce 1992).

The second finding is that the passive may be acquired earlier than stated by the researchers above, namely at the age of 3 to 4 years (Crain 1991; Crain, Thornton & Murasugi 1987, 2009; Crawford 2012; Demuth, Moloi & Machobane 2010; Messenger, Branigan & McLean 2011; O’Brien, Grolla & Lillo-Martin 2006; Snyder & Hyams 2008). Early acquisition of passives has been argued for in a small number of languages such as Sesotho (Demuth 1989),

¹¹⁹ Also see Table 8.2 of section 8.3 below.

Inuktitut (Allen & Crago 1996), and K'iche' Maya (Pye 1992; Pye & Quixtan Poz 1988). Hirsch and Wexler (2006:1) caution that these studies should be interpreted carefully, as all of these studies used exclusively natural production data from which it is unclear what syntactic and semantic interpretation children are applying to the various productions. Out of all of these studies, only one used a comprehension test to demonstrate early passive acquisition (Pye 1992). The reason for the two sets of apparently contradicting results could be differences in the morphosyntactic means by which passive constructions are formed in various languages. We return to this point in the next section.

Ud Deen (2011:155-159) lists the following possible reasons for the apparent delay in the acquisition of passive constructions compared to that of active constructions:

- (i) There is a reversal of the subject and object roles, and this reversal has implications for the canonical relationship which exists between the word order and thematic roles in the movement from the active to the passive voice. Passive constructions are sometimes misunderstood by children as active when the *by*-phrase is not included, but it is highly unlikely that active constructions will be misunderstood as passive.
- (ii) There is a similarity in the functions of the active and passive voice in terms of meaning, and there are only subtle differences in the use between the active and the passive, where the passive (i) hides the AGENT of the sentence, (ii) places emphasis on the THEME/PATIENT, and (iii) retains the topic of the conversation in the subject position even across clauses. It is thus argued that because the meaning of the active and the passive is so similar, the passive is not necessarily needed, as the active voice can be used to fulfill the same functions as the passive; hence the active is acquired earlier than the passive.
- (iii) The frequency with which the passive is employed (in comparison to the active voice) in child-directed-speech is very low, in contrast to in written input (in English). Because the input rate can be as low as 0.36 % in child-directed-speech (data obtained from Brown and the CHILDES database), it is assumed that children will acquire the passive later than the active voice. The frequency of the use of the passive voice however varies between languages; for instance, it is less frequent in English than in Sesotho (Demuth 1989).
- (iv) The similarity between agentive *by*-phrases in passive constructions and adjectival *by*-phrases in active constructions may also cause confusion. True passives are

passive constructions in which A movement¹²⁰ occurs (e.g., *The door was broken* – by someone not specified here) in contrast to adjectival passives in which no such movement occurs and which generally describes states (e.g., *The door was broken* – as a consequence of some person or event breaking it). See examples (8.4) and (8.5) for *The door was broken* as the short form of a true verbal passive and as an adjectival construction, respectively.

8.4. [The door_i [_{aux} was [_{VP} broken [_{t_i]]]]}

8.5. [The door [_{VP} was [_{AdjP} broken]]]

The occurrence of verbal passives alongside adjectival passives and the distinction between these two passive types being reliant on the understanding of A movement might make the acquisition of the passive problematic for children. This may be another reason why the passive may be acquired later.

The optionality of the *by*-phrase in the passive voice is a key aspect in the apparent delayed acquisition of the passive voice, as outlined in points (i) and (iv) above, as the hidden AGENT potentially makes the interpretation of the sentence more difficult. Other aspects that might account for the late acquisition of the passive construction is the “unusual” (relatively infrequently occurring) verb morphology associated with the passive form as well as the movement of direct and indirect arguments.

Early empirical studies on passives, those indicating an apparent delay in acquisition, can be placed into three groups according to what their focus was, namely studies on (i) imitation, comprehension and production, (ii) actional versus non-actional passives, and (iii) long versus short passives.

The imitation, comprehension and production of passives have received extensive research attention over the years. Some of the earliest studies include that of Fraser, Bellugi and Brown (1963) and Turner and Rommetveit (1967). Fraser et al. (1963) focused on the imitation, comprehension and production of passive constructions by 3-year-olds and found that the children generally could not comprehend and produce passives and had difficulty

¹²⁰ A-movement (or argument movement) is the transformational process, which moves a phrase into a position with a fixed grammatical function. The movement of the object to the subject position in the passive construction is an example of the argument being moved by means of transformation operations (e.g., *Someone broke the door* vs. *The door was broken (by someone)*).

imitating passives. Turner and Rommetveit (1967) aimed to manipulate the voice children used to encode a denotative domain of events. They performed two picture-related tasks with the children, with the acted-upon element or recipient of the action (as opposed to the actor) presented first (in Task 1) or with the acted-upon element or recipient emphasised by asking the children questions about it (in Task 2). Hereafter, the children produced an increased number of passive voice sentences.

One of the influential works on passives in child language is that of De Villiers and De Villiers (1973) who used an act-out methodology with toys. They tested 33 children from 19 to 37.5 months on their comprehension of six reversible active sentences and six reversible long passives in English. The children were placed in one of four groups according to MLU rather than age. The table below shows the results of the study (Ud Deen 2011:160).

Table 8.1. Results from De Villiers and De Villiers (1973) in Ud Deen (2011:160)¹²¹

Stage according to MLU	Nr. of children, age in months (MLU)	Active		Passive	
		% correct	% reversed	% correct	% reversed
1	8, 19-23 months (1.06-2.99)	45.8	10.4	25.4	30.0
2	10, 24-27 months (1.06-3.94)	65.8	16.9	39	37.3
3	9, 28-31 months (2.24-4.16)	78.9	15.5	31.8	50.4
4	6, 32-37.5 months (2.86-4.25)	87.8	12.2	31.4	65.6

The youngest group failed to perform above chance in the active and passive sentences while the MLU stage 3 group mostly mastered the active sentences but not the passive sentences. Stage 4 children however responded correctly to 87.8% of the active sentences and 65.6% of the passives. These findings of De Villiers and De Villiers were extended by Baldie (1976) who tested 100 children aged 3 to 8 years on three different tasks: an imitation task, a picture selection (comprehension) task, and a picture description (production) task. Baldie (1976) found that children can imitate passives before the age of 5, whereas they can comprehend passives at the age of approximately 6 and finally produce passives as late as 7;6 (Ud Deen 2011:160).

¹²¹ The numbers in the table do not add up to 100% as various other errors were present and discussed, but those errors are not pertinent to the current discussion and are thus not referred to here.

The second type of empirical study, which focused on actional versus non-actional passives, was conducted by, amongst others, Maratsos et al. (1985) who investigated whether verb semantics plays a role in the comprehension of passive sentences. The hypothesis was that action passives (such as *The cat was chased by the dog*) would be easier for children than non-action passives (pertaining to an experience rather than a physical action, such as *The cat was seen by the dog*) (Ud Deen 2011:160). Maratsos et al. (1985) conducted two experiments. The first one focused on the assessment of actional passives and non-actional passives, where after showing toy characters, and presented with a test sentence, the children's task was to point to the character that carried out the event denoted by the verb. Results showed that children responded correctly to the active sentences containing actional verbs 91% of the time and non-actional verbs 88% of the time. For the passive sentences, the children responded correctly 67% and 40% of the time to actional and non-actional verbs, respectively. The results of the second experiment, where 80 children (4-11 years old) were tested on a picture selection task, are summarised in the table below.

Table 8.2. Percentage correct responses to a picture selection task testing active and passive sentences with actional and non-actional verbs (Maratsos et al. (1985) in Ud Deen (2011:161))

Age	Actional		Non-actional	
	Active (%)	Passive (%)	Active (%)	Passive (%)
4	97	85	92	34
5	99	91	96	65
7	99	92	97	82
9	100	96	99	87
11	100	99	100	99

The results in the table indicate that actional passives are mastered by the age of 5 years. By contrast, non-actional passives are only mastered by the age of 11 and problems in their comprehension persist till the age of 9 (Ud Deen 2011:161). A similar study, by Sudhalter and Braine (1985) with 30 children aged 3 to 6 years, also found that children perform significantly better on actional than non-actional passives on act-out tasks (Ud Deen 2011:162).

The last type of empirical studies focused on long versus short passives and the role that the *by*-phrase plays in the acquisition of the passive construction. In his seminal study, Horgan (1978) performed a picture description task with 45 children aged 2;0 to 4;2 and with 180 children aged 5;0 to 13;0. Horgan found that (i) short passives were acquired before long

passives by typically developing children, with these children comprehending action passives at about the age of four; (ii) long passives were used rarely, only about 10% of the time by children younger than 6 years; (iii) children often substituted the *by* in the *by*-phrase with other prepositions, such as *with* or *from*; (iv) children initially treated short passives as statives (or adjectival constructions) (see Ud Deen 2011:162), and (v) agentive non-reversible passives such as *The vase was broken by the girls* occurred only after the age of 9 years, with no child younger than 11 years producing both reversible and non-reversible passive sentences. Accordingly, overall, passive sentences seem to be late-developing despite the fact that some types (specifically action passives) are already understood by 4-year-olds.

Southwood and Van Dulm (2012b) assessed the comprehension and production of agentive action passives, agentless action passives and reversible passives in English and Afrikaans. The results for the comprehension tasks are provided in Figure 8.2 below and those of the production tasks in Figure 8.3. Reasons for the differences between the two language groups, especially for the younger participants, are provided in Southwood and Van Dulm (2012b:51-56).

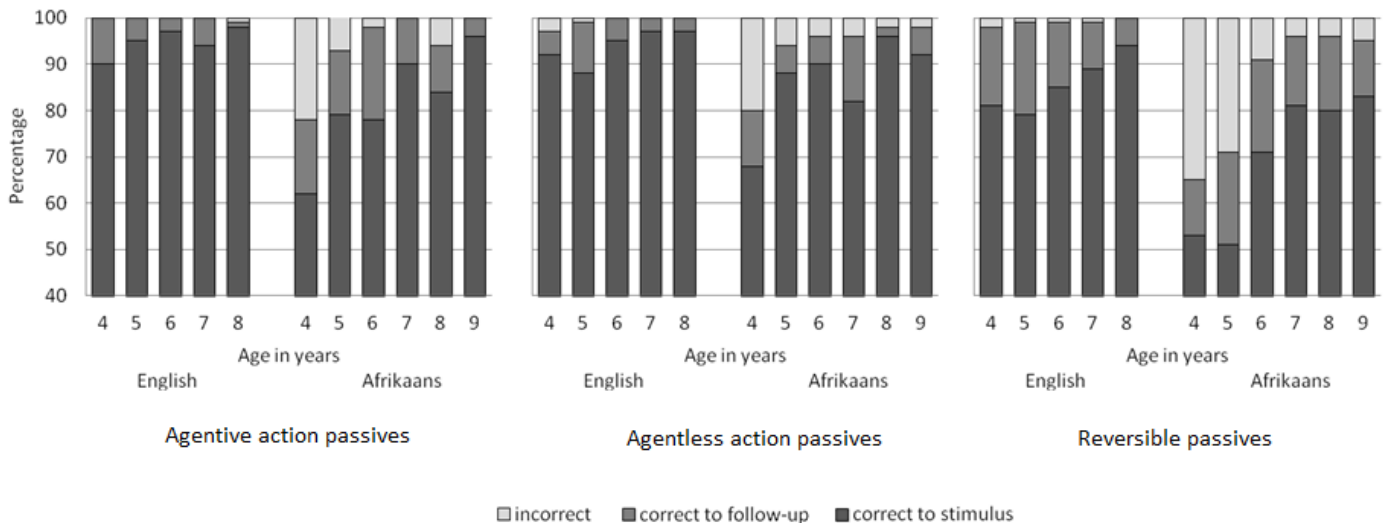


Figure 8.2. Results for English and Afrikaans comprehension of passive types, from Southwood and Van Dulm (2012b:51-56)

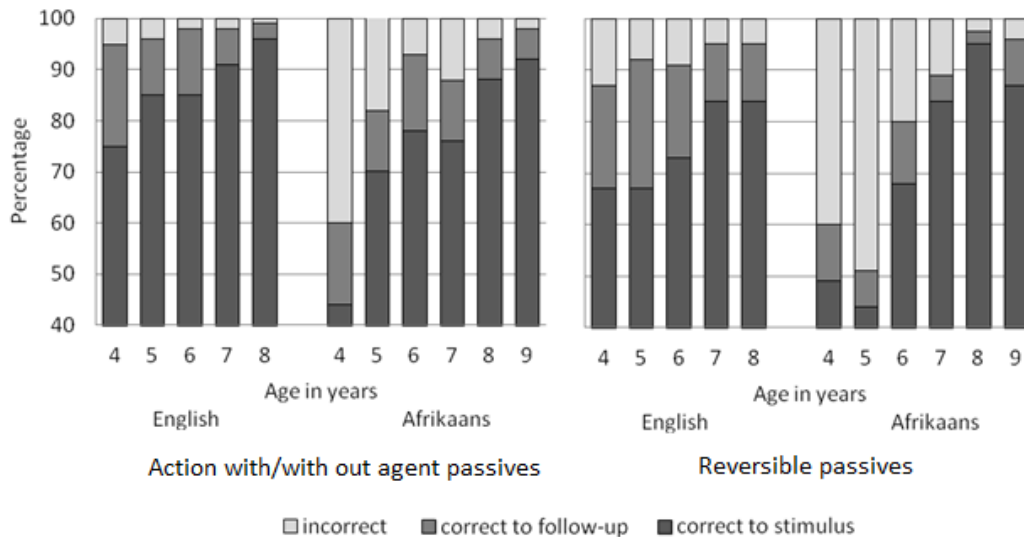


Figure 8.3. Results for English and Afrikaans production of passive types, from Southwood and Van Dulm (2012b:51-56)

Southwood and Van Dulm (2012b:52) found some differentiation between actional, perceptual and psychological verbs for the reversible passive, in the sense that items containing perceptual and psychological verbs were answered incorrectly more often than those containing action verbs.

There are multiple theoretical studies which explain how passives are acquired and which provide reasons for the abovementioned trends in the acquisition of the passive. These studies fall outside the scope of this dissertation, but a detailed overview can be found in Ud Deen (2011:162-178) and Hirsch and Wexler (2006).

Marinis (2007:265) states that research on the L2 acquisition of morpho-syntax by children is rare, and research focusing on the L2 acquisition of passives by children is even scarcer. Most studies conducted on the L2 acquisition of passives focus on adults. Adler (2010:8) states that research on the passive form from a L2 perspective can be divided into three groups. Firstly, research includes the identification of features of the passive voice which cause problems for children who learn English as a L2. The second group includes investigations about errors made with unaccusative passives, whereas the third group focuses on the effect of different types of pedagogical techniques or interventions for the acquisition of the passive form. As the available L2 studies were not very informative for the current study, a review of them is not provided here.

8.4 How passive constructions present themselves in English, Afrikaans and isiXhosa

The following discussion of the manner in which passives present themselves in English, Afrikaans and isiXhosa draws extensively from chapter 4 of Potgieter (2014).

8.4.1 Passive constructions in English

The morphosyntactic and semantic properties of passive constructions and the role that these properties play in terms of the derivation of the passive construction will be outlined for English in this subsection. The passive construction, firstly, entails the use of the passive auxiliary BE which occurs as a free morpheme¹²² and takes different forms depending on the tense/aspect in question. These different forms are *is/was/are/were (being)* as shown in *The apple is/was (being) picked* and *The apples are/were (being) picked*. The auxiliary form *is/are* denotes present tense whereas *was/were* denotes past tense. *Been* denotes perfect aspect,¹²³ which can optionally be added to the present and past continuous tenses.

The passive participle is a non-finite verb which encodes passive voice. This participle is derived by affixing a passive morpheme to the verb stem (Ouhalla 1999:170, Radford 2009:471). The suffix *-ed* is affixed to all regular verbs (e.g., *baked*) and numerous irregular verbs. For various other irregular verbs, the suffix *-en* (or *-n*) is affixed to the verb stem (e.g., *eaten*), or the passive participle is derived by apophony (vowel gradation) (e.g., *the bell was rung* or *battles were fought*). For other irregular verbs, both *-en* and apophony are used to form the passive participle (e.g., *was bitten*) (McArthur 1992:751-752).¹²⁴

The derivation of the active, declarative English sentence *The dog eats the bone* is illustrated in the following tree diagram.

¹²² As Potgieter (2014) notes, the passive auxiliary BE is sometimes replaced with GET (*get, got, gotten*, as in *The book gets/got read*). The resultant constructions, referred to as “GET-passives”, are however used very infrequently and usually only in informal registers (Quirk et al. 1985:161). If a participant used a GET-passive in the production tasks in the current study, it was accepted as a correct response.

¹²³ Passives can occur in other tenses too, but because only the present and past continuous tenses are used in the REALt, other tenses are not discussed here.

¹²⁴ Potgieter (2014) points out that in English the passive participle form is generally homophonous with the past perfect participle form of the verb (e.g., *dropped, eaten, seen, stolen, taken, shown*, etc.), and sometimes also with verbs’ simple past tense form (e.g., *dropped, chewed, listened, taught, hurt, sought*).

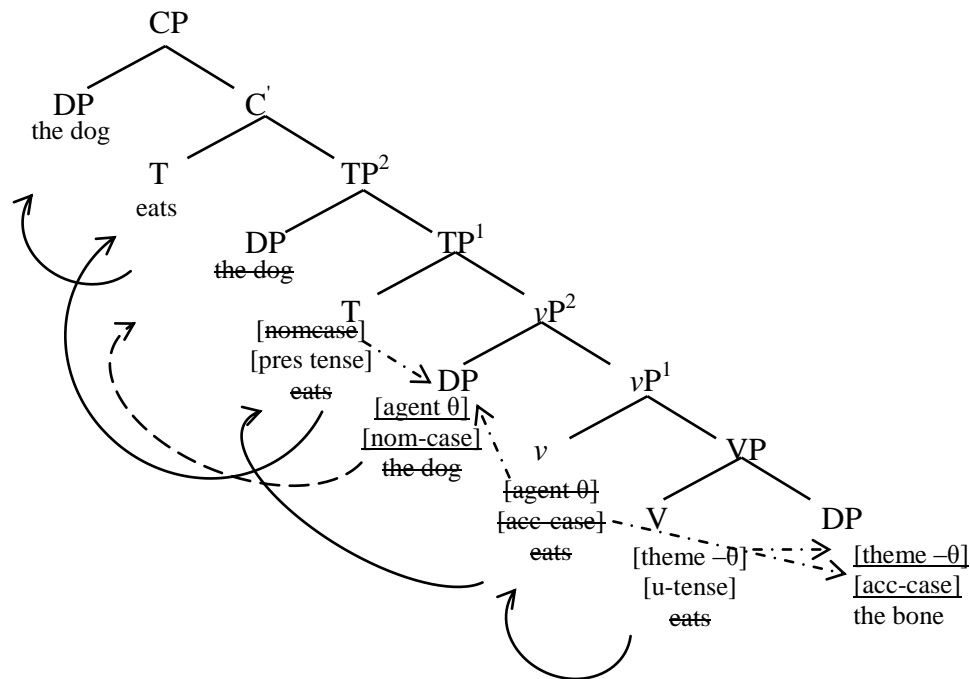


Figure 8.4. Tree diagram showing the derivation of the active voice, and transformation movement operations involved, in English

In the derivation of the sentence *The dog eats the bone*, the verb *eat(s)* undergoes movement to the light verb position *v* in the specifier position of the light verb phrase (vP^1). The verb also assigns the theta role of THEME and accusative case to its complement DP *the bone* and the theta role of AGENT to the DP *the dog*. The verb then moves to T in the specifier position of TP^1 where present tense is assigned to the verb *eats* and nominative case is assigned to the DP *the dog*.

The derivation of the short passive counterpart of *The dog eats the bone*, namely *The bone is eaten* is illustrated in the tree diagram below. Note that in the process of movement transformations, copies are left behind; these copies are indicated by stricken-through elements in the tree diagram and receive a so-called “null spellout” and are thus unpronounced (or not realised phonetically) (Radford 2009:148).¹²⁵ Thus the movement operation is a composite operation in which two suboperations of copying and deletion are involved.

¹²⁵ In the version of generative theory in which Radford (2009) worked, traces, and not copies, were left behind during movement operations.

An English passive sentence may electively have a *by*-phrase, in which case it is a “full”/agentive/long passive, in which “the complement of the preposition *by* thematically corresponds to the expression functioning as the subject in the active counterpart of the sentence” (Potgieter 2014). The tree diagram below of *The bone is eaten by the dog* illustrates the derivation of the long passive in English.

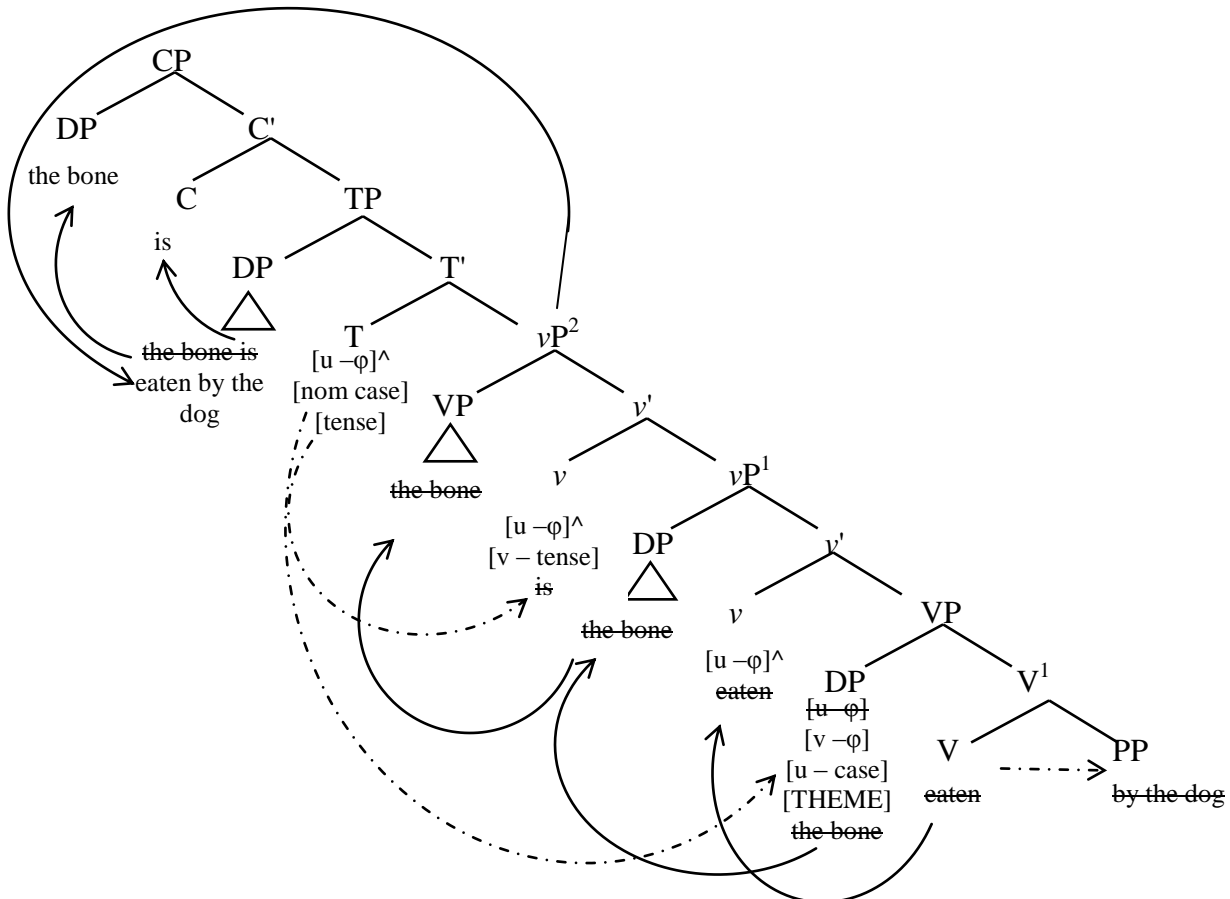


Figure 8.6. Tree diagram showing the derivation from the active to the passive voice for long passives in English

Following the movement of the passive participle from V to the v' of vP^1 , the VP undergoes verb-raising into the specifier position of vP^2 . The raising of the VP as an Agree-related operation is triggered by a movement diacritic. This diacritic is associated with the light verb’s ϕ -features, that is, $v [u-\phi]^$ which probes for complements which contain ϕ -features and obligates movement so that the unvalued ϕ -features of the light verb can be valued (Oosthuizen 2013:50). Because the passive involves a passive participle and an auxiliary verb, a second light verb is incorporated into the derivation of the passive. Oosthuizen (2013:39) states that it is commonly assumed that the general category of light verbs can be classified into various types such as causative, agentive and experiential light verbs. This assumption is adopted and extended in this study where the

passive auxiliary is also seen as a light verb. Here again the light verb has an unvalued ϕ -feature with an associated movement diacritic, $[u-\phi^{\wedge}]$, which obligates the movement of the VP from the specifier position of vP^1 by means of a copy and merge operation into the specifier position of vP^2 .

The specifier T also contains the feature $[u-\phi^{\wedge}]$ which obligates movement. Here, the entire vP^2 is raised to the specifier position of TP. The specifier T also contains nominative case which is assigned to the DP *the bone* and tense which is assigned to the passive auxiliary / second light verb *is*.

Although the object argument of the passive verb usually occupies the (clause-initial) structural subject position (as in example (8.6a) below), it may also remain in its original structural object position, in which case the expletive pronoun *there* has to occur in the structural subject position (as shown in example (8.6b) below). This is however only allowed in cases where the object argument is an indefinite expression (Radford 2009:256, in Potgieter 2014).

- 8.6. (a) *No evidence of any corruption was found.*
 (b) *There was found no evidence of any corruption.*

(Radford 2009:256)

Finally, note that not all verbs can undergo passivisation in English. Specifically, intransitive verbs cannot be passivised, as illustrated by **(There) is being slept*. Due to the *there*-passive occurring infrequently in English, this was not included in the English REALt items.

8.4.2 Passive constructions in Afrikaans

In Afrikaans, as in English, the passive participle is a non-finite verb that encodes the passive voice. The Afrikaans passive construction entails the use of the passive voice auxiliary WEES ‘be’ which occurs as a free morpheme.¹²⁶ This auxiliary can take different forms depending on the tense in question, with *word* being the singular and plural present tense form and *is* the singular and plural past progressive tense form. (Recall that there is no

¹²⁶ WEES represents the uninflected form of the auxiliary.

overtly marked subject-verb agreement in Afrikaans – see section 3.4.) The REALt includes present and past tense passives in the Afrikaans comprehension set whereas responses with present, past or present progressive aspect are allowed for in the Afrikaans production set for passives.

For regular verbs in Afrikaans, the passive participle is derived by affixing a passive morpheme in the form of the prefix *ge-* to the verb stem, as in *Die appels word gepluk* ‘The apples are picked’.¹²⁷ Where English irregular verbs mostly still take a form of the passive suffix, irregular passive verbs in Afrikaans which start with the prefix *ge-*, *be-*, *er-*, *her-*, *ver-* or *ont-* do not take any passive prefix, as is illustrated in *Die man is geniet/betaal/erken/herken/verjaag/onteien* ‘The man was enjoyed/paid/acknowledged/recognised/chased away/disinherited’ (Taalkommissie van die Suid-Afrikaanse Akademie vir Wetenskap en Kuns 2009:162-166, in Potgieter 2014).

As in English, the Afrikaans passive sentence may electively have an AGENT phrase. In the case of Afrikaans, this is a *deur*-phrase (‘by-phrase’). Thus the complement of the preposition *deur* thematically matches the expression which functions as the subject in the active voice of the sentence. In the example *Die been is deur die hond geëet* ‘The bone is eaten by the dog’, the AGENT argument *die hond* is the complement of *deur*. Whereas the English *by*-phrase has a fixed position (after the verb), the Afrikaans *deur*-phrase may occur either before or after the verb, as shown in examples (8.7a) and (8.7b) below.

- 8.7. (a) *Die been is deur die hond geëet*
 (b) *Die been is geëet deur die hond*

Before we turn to the derivation of Afrikaans passive sentences, it should be noted that there is a difference between the derivation of Afrikaans and English active sentences. For the most part, the derivations of these sentences are similar in the two languages, with the following exceptions: A difference in terms of the movement operation to TP² where, in the derivation of the English active sentence *The dog eats the bone*, only the DP *the dog* moves from the specifier position of vP² to the specifier position of TP² (where vP¹ undergoes stranding). From there the DP undergoes subject raising from the specifier position of TP² to the specifier

¹²⁷ In Afrikaans, the passive, perfect and past participles all display the same prefixed form with *ge-*, and are also homophonous, as is the case in English (Potgieter 2014).

position of the CP. The verb undergoes verb raising from the specifier position of TP¹ to the specifier position of C'. In contrast, in the derivation of the Afrikaans active sentence *Die hond eet die been* 'The dog eats the bone', the entire vP² moves to the specifier position of TP² (where vP² undergoes pied piping). From there, only the DP *die hond* undergoes subject raising from the specifier position of TP² to the specifier position of the CP. As is the case in English, the verb *eet* 'eat' in the specifier position of TP¹ undergoes verb raising to the specifier position of C'. In the tree diagram below, both the English and Afrikaans derivations are shown, for ease of comparison.

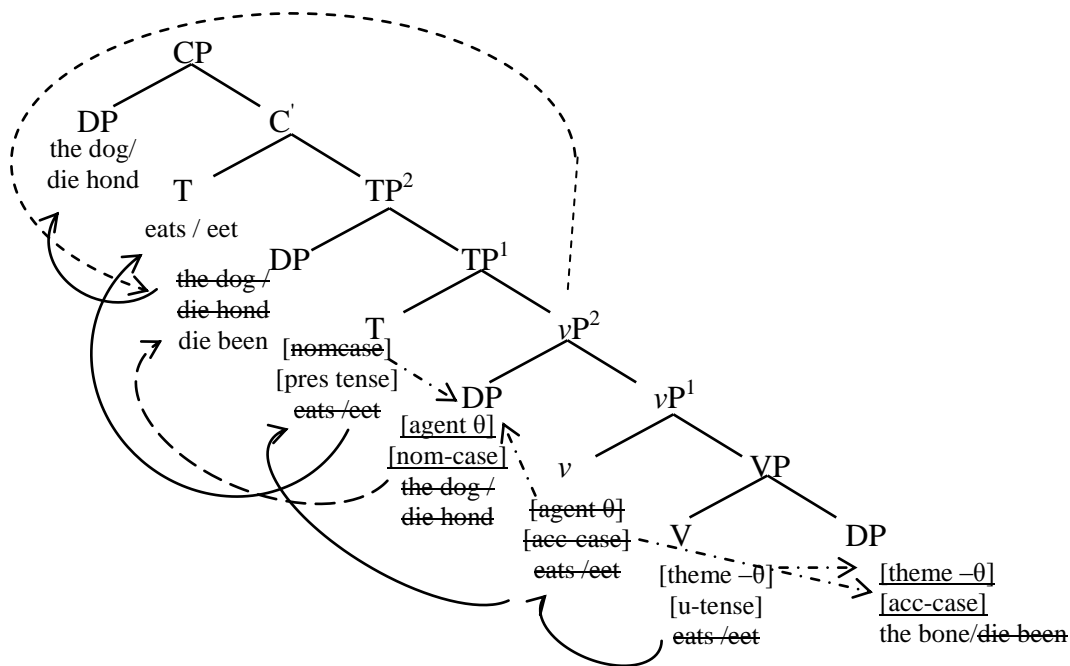


Figure 8.7. Tree diagram showing the derivation of the active voice, including transformation movement operations involved, in Afrikaans and English

The derivation of the Afrikaans long passive *Die been word deur die hond geëet* 'The bone is eaten by the dog' is illustrated in the tree diagram in Figure 8.8 below.

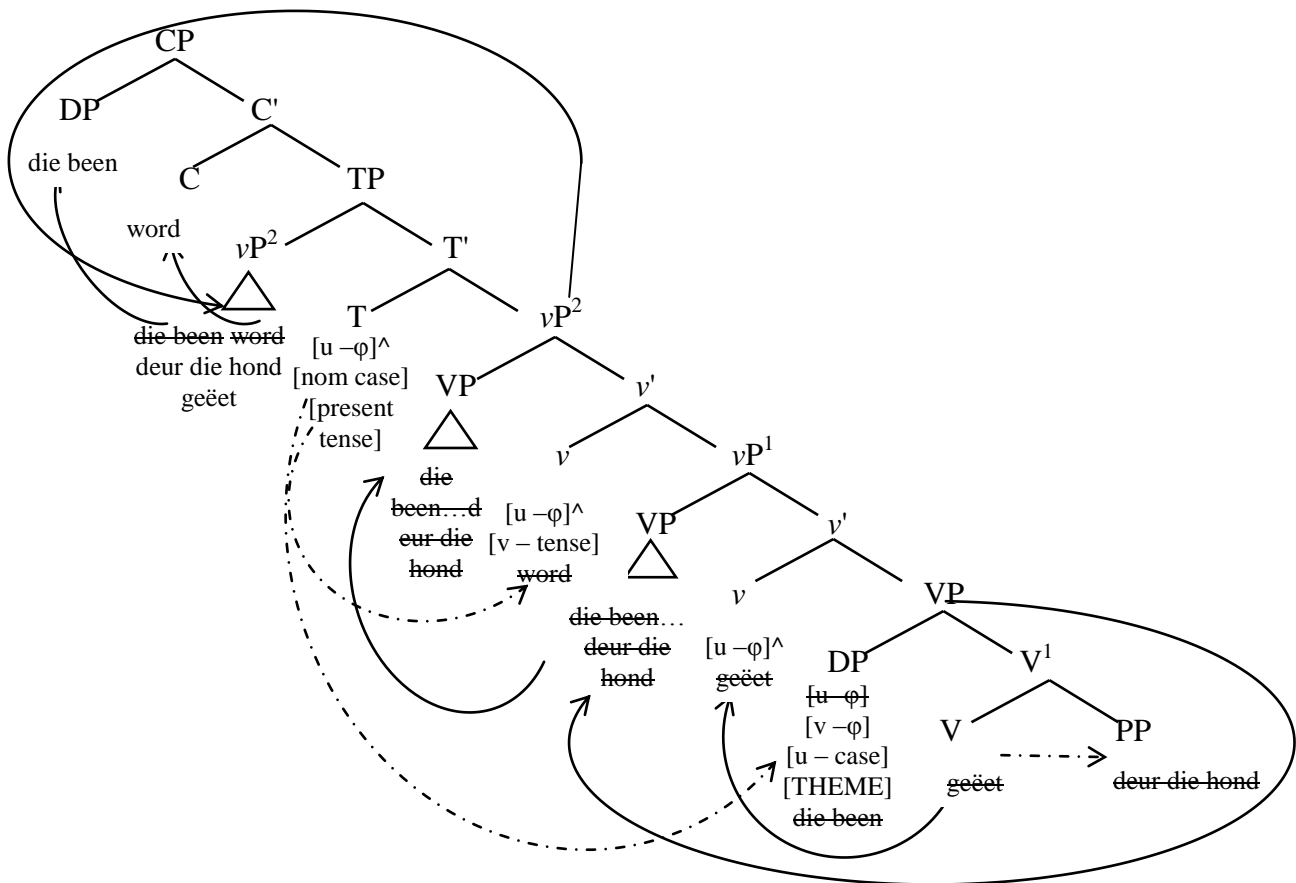


Figure 8.8. Tree diagram showing the derivation from the active to the passive voice for long passives in Afrikaans

In the derivation¹²⁸ of *Die been word deur die hond geëet* ‘The bone is eaten by the dog’, the passive participle *geëet* ‘eaten’ assigns the theta role of THEME to the DP *die been* ‘the bone’, and the passive participle undergoes movement as it is copied and merged into the light verb position *v* in the specifier position of *v'*.

Following the merger of the passive participle under *v'*, the VP undergoes verb-raising into the specifier position of *vP* (a form of VP raising which is a general option in Afrikaans) (Oosthuizen 2013:49). The raising of the VP is triggered by a movement diacritic. This diacritic is associated with the light verb’s ϕ -features, $[u-\phi]^{\wedge}$, which probes for complements which contain ϕ -features and obligates movement so that the unvalued ϕ -features of the light verb can be valued (Oosthuizen 2013:50). Because the passive involves a passive participle and an auxiliary verb, a second light verb is incorporated into the derivation of the passive.

¹²⁸ The account of word order and linearisation that is assumed in this study is largely based on the framework developed by, amongst others, Biberauer and Richards (2006), Biberauer and Roberts (2006), Biberauer, Holmberg and Roberts (2009), Oosthuizen (2013), and Roberts (2010). In this framework, the complement is merged to the right of the verb in Germanic varieties, including Afrikaans (Oosthuizen 2013:46).

As stated above during the discussion of the derivation of English passive sentences, Oosthuizen (2013:39) states that it is commonly assumed that light verbs can be classified into various types, including causative, agentive and experiential light verbs. This assumption is adopted and extended here, where the passive auxiliary is also seen as a light verb. Here again the light verb has an unvalued ϕ -feature with an associated movement diacritic, $[u-\phi^{\wedge}]$, which obligates the movement of the VP in the specifier position of vP^1 by means of a copy and merge operation into the specifier position of vP^2 .

The specifier T also contains the feature $[u-\phi^{\wedge}]$ where movement is obligated by the diacritic. In Afrikaans, the entire vP^2 is raised to the specifier position of TP. The specifier T also contains nominative case which is assigned to the DP *die been* ‘the bone’ and tense which is assigned to the passive auxiliary / second light verb *word* ‘is’.

The abovementioned operation is taken to involve pied-piping of both of the phrases (vP^1 and vP^2) containing the expression *die been*. Oosthuizen (2013:52) explains that in pied-piping neither the subject nor the verb is independently raised to the T head. Independent raising of the subject could however be argued to form part of the stranded VP (see Biberauer 2003; Biberauer et al. 2009; and Biberauer & Richards 2006 for discussion).¹²⁹

Afrikaans, like English, also permits passive constructions in which the object argument remains in its original position (the structural object position) and the structural subject position contains the thematically empty expletive pronoun *daar* ‘there’. As in English, this is only allowed if the object argument is an indefinite expression (Ponelis 1979:23-25, in Potgieter 2014), as in *Daar word geen werklike pogings tot versoening aangewend nie* ‘No real attempts at reconciliation are being made’.

Recall that intransitive verbs cannot be passivised in English. In Afrikaans, in contrast, intransitive verbs can be passivised if the expletive *daar* is used, as illustrated in (8.8) below (taken from Potgieter 2014).

¹²⁹ See Oosthuizen (2013:50) for the approach of including pied-piping and stranding in Afrikaans providing a basis for explaining various “leaking” phenomena where VP-related constituents can occur either to the left or to the right of the lexical verb.

- 8.8. (a) **Word geslaap (deur Pieter)*
is-being slept (by Pieter)
- (b) *Daar word geslaap (deur Pieter)*
there is-being slept (by Pieter)
'Pieter is sleeping'

Furthermore, there are two semantic restrictions regarding which intransitive verbs may occur in a passive *daar*-construction. The first restriction involves (ergative) unaccusative verbs such as *gebeur* ("happen") and *vergaan* ("perish/decay") which may not passivise, as illustrated in the examples below (Conradie 1969:82 in Potgieter 2014)

- 8.9. (a) **Dinge word hier gebeur* / **Word (deur dinge) hier gebeur*
things are-being here happen / are-being (by things) here happen
- (b) **Daar word dinge hier gebeur.* / **Daar word (deur dinge) hier gebeur.*
there are-being things here happen / there are-being (by things) here happen

Secondly, Conradie (1969:81 in Potgieter 2014) states that, generally, only unergative intransitive verbs that express a deliberate human action with an AGENT argument are allowed in passive *daar*-constructions, e.g., *bedel* 'beg', *besluit* 'decide' and *bad* 'bathe'. Ponelis (1979:408-409 in Potgieter 2014) agrees, arguing that only actional verbs (verbs that assign the AGENT role to the subject argument) may occur in Afrikaans *daar*-constructions. This is illustrated in the examples below.

- | | | | |
|-----------|--|-----|---|
| 8.10. (a) | <i>Die meisie teken goed</i>
The girl draws well
'The girl draws well' | (b) | <i>Daar word goed geteken</i>
There is-being well drawn
'There is drawn well' |
| 8.11. (a) | <i>Die meisie lyk mooi</i>
the girl looks pretty
'The girl looks pretty' | (b) | * <i>Daar word mooi gelyk</i>
there is-being pretty looked |

(adapted from Ponelis 1979:409)

Potgieter (2014) however notes that some psychological verbs such as *droom* 'dream', *bloos* 'blush' and *skrik* 'become frightened', and perception verbs such as *sien* 'see', *ruik* 'smell' and *hoor* 'hear', all of which take an EXPERIENCER argument, may indeed occur in passive *daar*-constructions. This is clear from the following examples:

- 8.12. (a) *Daar is groot geskrik (deur die kinders) toe hulle uitgevang is*
there was big shocked (by the children) when they out-caught were
'The children had a big scare when they were caught out'

- (b) *Daar is (deur die onderwysers) gesien hoe die kinders skelm rook*
 there was (by the teachers) saw how the children slyly smoke
 ‘The teachers saw the children smoking on the sly’

(Potgieter 2014)

Afrikaans and English are thus very similar in terms of which verbs they allow to passive, with the exception that Afrikaans allows certain unergative and unaccusative verbs to passivise in the presence of existential *daar*, something which English does not allow. Due to the fact that *daar*-passives are not rare in Afrikaans, this construction is included in the relevant production task in the Afrikaans REALt.

8.4.3 Passive constructions in isiXhosa

As explained above, the derivation of the passive voice in Afrikaans and English entails (i) the use of a passive auxiliary on which aspect and tense are indicated, (ii) a past participle which is formed by affixing a morpheme to the verb stem, and (iii) an optional *by*-phrase. In isiXhosa, the passive voice is also expressed by means of (i) tense morphemes and (ii) a verbal affix. There are however differences between passive constructions in English and Afrikaans and those in isiXhosa. Firstly, tense is not expressed by means of a free lexical morpheme in the form of a passive auxiliary in isiXhosa but rather through the same bound tense morphemes that are generally also found with active verbs. The two main tense morphemes are the so-called “long” and “short” forms. The long form generally occurs where there is no object or post-verbal adverb, and the short form generally occurs where the verb is unstressed and is followed by an expression such as an object or an adverb. The following examples illustrate the use of the long and short present tense passive forms, respectively.¹³⁰

- 8.13. *Imoto iyalungiswa*
I-moto i-ya-lungis-w-a
 NC.9-car SM.9-ASP-fix-PASS-PRES.FV
 ‘The car is being fixed’

- 8.14. *Imoto ilungiswa nguTata*
I-moto i-lungis-w-a ng-u-Tata
 NC.9-car SM.9-fix-PASS-PRES.FV COP-NC.1a-father
 ‘The car is being fixed by father’

¹³⁰ The abbreviations used in the glosses are as follows: numeral = noun class number and agreement marker; ASP = aspect; CAUS = causative; COP = copula; EXP = expletive; FV = final vowel; NC = noun class; NEG = negative; OM = object agreement marker; PASS = passive; PAST = past tense; PRES = present tense; SM = subject agreement marker.

A second difference between the three languages is that a verbal affix is used in isiXhosa to indicate the passive participle (as in Afrikaans and English), but that this verbal affix is not a prefix (as in Afrikaans) or a suffix (as in English) but what could be viewed as an infix, as the affix appears directly after the stem and directly before the final vowel. There are two such affixes, namely *-iw-* and *-w-*, and they are in complementary distribution: *-w-* occurs with bisyllabic and polysyllabic verbs and with three-syllabic vowel verbs, as illustrated by examples (8.15) to (8.17); *-iw-* occurs with monosyllabic verbs, so-called “latent (*i-*) verbs” and bisyllabic vowel verbs, as illustrated by examples (8.18) to (8.19) (Bryant 2007:164).

8.15. Polysyllabic verbs

*uMama uyabizwa**u-Mama u-ya-biz-w-a*

NC.1a-Mama SM.1a.-ASP-call-PASS-PRES.FV

‘Mother is being called’

8.16. Vowel verbs of three syllables

*Inja yoyikwa ngumntwana**In-ja y-oyik-w-a**ng-um-ntwana*

NC.9-dog SM.9-ASP-fear-PASS-PRES.FV COP-NC.1-child

‘The dog is feared by the child’

8.17. Monosyllabic verbs

*Ubusi ubuyatyiwa ziintombi**Ubu-si ubu-ya-ty-iw-a**z-ii-ntombi*

NC.14-honey SM.14-ASP-eat-PASS-PRES.FV COP-NC.10-girls

‘Honey is being eaten by the girls’

8.18. Latent (*i*) verbs*Iilekesi zibiwa lusana**ii-lekese zi-b-iw-a**l-u-sana*

NC.10-sweets SM.10-steal-PASS-PRES.FV COP-NC.11-baby

‘Sweets are being stolen by the baby’

8.19. Vowel verbs of two syllables

*Igaraji yakhiwa yindoda**I-garaji y-akh-iw-a**y-in-doda*

NC.9-igaraji SM.9-build-PASS-PRES.FV COP-NC.9-man

‘A garage is being built by the man’

The addition of the passive affix *-w-* to the verb stem results in various (morpho)phonological changes which occur in the derivation from active voice to passive voice. Table 8.3 provides a summary of these changes.

Table 8.3. Morpho-phonological changes in the derivation of the passive construction in isiXhosa

Morpho-phonological change	Active form	Passive form	Active form verb stem	Passive form verb stem	Active form meaning	Passive form meaning
Palatalisation of bilabial consonants of the last syllable of verb stem (Bryant 2007:165; Potgieter 2014) ¹³¹	<i>ph</i>	<i>tsh</i>	<i>bop<u>h</u>a</i>	<i>bot<u>sh</u>wa</i>	‘tie /bandage’	‘being tied / bandaged’
	<i>b</i>	<i>ty</i>	<i>hle<u>b</u>a</i>	<i>hle<u>ty</u>wa</i>	‘gossip about’	‘being gossiped about’
	<i>mb</i>	<i>nj</i>	<i>bam<u>b</u>a</i>	<i>ban<u>j</u>wa</i>	‘catch’	‘being caught’
	<i>bh</i>	<i>j</i>	<i>bhab<u>h</u>is a</i>	<i>bhaji<u>s</u>wa</i>	‘let ensnare’	‘(let be) being ensnared’
	<i>m</i>	<i>ny</i>	<i>lu<u>m</u>a</i>	<i>lu<u>ny</u>wa</i>	‘bite’	‘being bitten’
	<i>mp</i>	<i>ntsh</i>	<i>mpom<u>p</u>a</i>	<i>mpont<u>sh</u>wa</i>	‘pump’	‘being pumped’
Substitution of verb stem endings consonant cluster (Du Plessis 1978:162)	<i>-ml-</i>	<i>-nyul-</i>	<i>-xham<u>l</u>a</i>	<i>-xhany<u>u</u>lwa</i>	‘overwork’/ ‘waste’	‘being overworked’ / ‘being wasted’
	<i>-mk-</i>	<i>-nyuk-</i>	<i>-lum<u>k</u>ela</i>	<i>-lunyuk<u>e</u>lwa</i>	‘beware’	‘being beware’
Changes in perfective tense ¹³² (Louw & Jubase 1963:111)	Long form verb ending <i>-ile</i>	<i>-l-</i> is omitted	<i>-bon<u>i</u>le</i>	<i>-bon<u>i</u>we</i>	‘had seen’	‘had been seen’
	Short form verb ending <i>-a</i>	Substituted by <i>-e</i>	<i>-bon<u>e</u></i>	<i>-bon<u>e</u>we</i>	‘had seen’	‘had been seen’

As in English and Afrikaans, the object of the active sentence (THEME) in example (8.20) has been raised into the structural subject position in the passive construction in example (8.21). The verb in the passive example (8.21) is in agreement with the noun class of the expression occupying the structural subject position (*-zi-*) in the passive sentence (or the object in the active sentence), irrespective of this expression’s thematic role. As the noun moved from the object position to the subject position, the morpheme *-zi-* also moved from the object position as an infix between the tense morpheme and the verb stem to the position before the tense morpheme. Because there is no expression occupying the structural object position in the passive sentence, the verbal complex does not contain an object marker.

¹³¹ These changes occur even if the relevant labial consonant is not immediately adjacent to the *-w-*. They do not apply, though, to a labial consonant in stem-initial position (Du Plessis 1978:162 in Potgieter 2014).

¹³² Due to these changes, ambiguity in interpretation is avoided by the clear (morpho)phonological differences between the perfective form (be it long or short) and the passive form of a verb (Potgieter 2014).

applicable. One of these heads includes the v which according to Baker (1988) hosts the argument-changing affixes such as the causative, applicative, reciprocal and passive in Bantu languages. The movements of the subject and the verb as explained above are shown in the tree diagram from Smouse et al. (2012:212) in Figure 8.9 below.

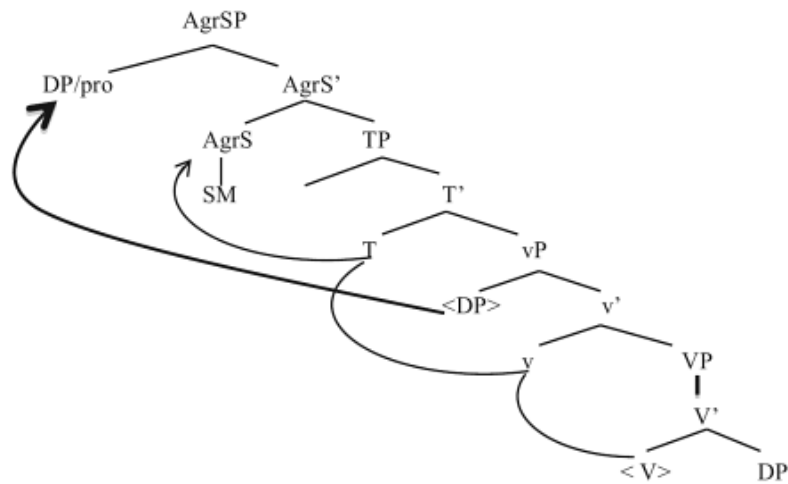


Figure 8.9. Tree diagram showing the derivation from the active to the passive voice for short passives in isiXhosa (from Smouse et al. 2012:212)

As is the case in Afrikaans and English, an optional *by*-phrase may be included in isiXhosa passive constructions allowing for the occurrence of both long and short passives. The subject argument of the active sentence in example (8.20) above occurs in a copular NP (*nguJohn*) in the passive sentence in example (8.21), which serves as the isiXhosa equivalent of the Afrikaans and English *by*-phrase (Du Plessis & Visser 1992:81).¹³³ This phrase consists of a copular prefix (in this case *ngu-*) determined by the class of the noun, where the noun is the AGENT to which the copular prefix attaches (Louw & Jubase 1963:106). The following table shows the copulative concord associated with each noun class and an example of a *by*-phrase for each class in isiXhosa.¹³⁴

¹³³ Although the isiXhosa copular NP (just like the English *by*-phrase) may occur only postverbally, its exact position depends on discourse factors (Du Plessis & Visser 1992:84).

¹³⁴ The derivation for long passives is not covered by Smouse et al. (2012) and working out an analysis of how such derivation would take place in minimalist syntax falls outside the scope of this dissertation.

Table 8.4. Copulative concord associated with each noun class and an example of a by-phrase for each class in isiXhosa

Noun classes	Copulative marker	Class prefix	Copulative prefix with noun	Meaning in English
1	<i>ng-</i>	<i>um-</i>	<i>ng-um-ntu</i>	‘it is a person’
2	<i>ng-</i>	<i>aba-</i>	<i>ng-aba-fundi</i>	‘they are students’
1a	<i>ng-</i>	<i>u-</i>	<i>ng-u-matshini</i>	‘it is a machine’
2a	<i>ng-</i>	<i>oo-</i>	<i>ng-oo-matshini</i>	‘they are machines’
3	<i>ng-</i>	<i>um-</i>	<i>ng-um-thi</i>	‘it is a tree’
4	<i>y-</i>	<i>imi-</i>	<i>y-imi-thi</i>	‘they are trees’
5	<i>l-</i>	<i>ili-</i> (monosyllabic) / <i>i-</i> (polysyllabic)	<i>l-i-hashe</i>	‘it is a horse’
6	<i>ng-</i>	<i>ama-</i> (for either <i>ili-</i> / <i>i-</i>)	<i>ng-ama-hashe</i>	‘they are horses’
7	<i>s-</i>	<i>Isi-</i> / <i>is-</i> (if vowel initial noun stem)	<i>s-isi-tulo</i>	‘it is a chair’
8	<i>z-</i>	<i>izi-</i> / <i>iz-</i> (if vowel initial noun stem)	<i>z-izi-tulo</i>	‘they are chairs’
9	<i>y-</i>	<i>in-</i> / <i>im-</i> (both for monosyllabic) <i>in-</i> (polysyllabic) <i>im-</i> (if noun stem starts with <i>b,p,f,v</i>) <i>i-</i> (if borrowed word)	<i>y-in-tombi</i>	‘it is a girl’
10	<i>z-</i>	<i>izin-</i> / <i>izim-</i> (both for monosyllabic) <i>iin-</i> (polysyllabic) <i>iim-</i> (if noun stem starts with <i>b,p,f,v</i>) <i>ii-</i> (if borrowed word)	<i>z-iin-tombi</i>	‘they are girls’
11	<i>l-</i>	<i>ulu-</i> / <i>u-</i> (singular) <i>ulu-</i> (monosyllabic) <i>u-</i> (polysyllabic)	<i>l-u-sana</i>	‘it is a baby’
14	<i>b-</i>	<i>ubu-</i> / <i>u-</i>	<i>b-ubu-si</i>	‘it is honey’
15	<i>k-</i>	<i>uku-</i>	<i>k-uku-tya</i>	‘it is food’

Potgieter (2014) notes that, isiXhosa, like English and Afrikaans, allows the object argument to stay in its original position in a passive construction. In English and Afrikaans this necessitates the occurrence of the expletive pronoun *there* in English and *daar* in Afrikaans in the (thematically empty) structural subject position. The isiXhosa equivalent of such *there*- and *daar*-constructions is expressed by means of adding the expletive prefix *ku-* to the passive verb (Du Plessis & Visser 1992:70). Whereas in English and Afrikaans such expletive constructions are restricted to cases where the object argument is an indefinite expression, both definite and indefinite expressions are permitted to occur in isiXhosa as the object argument in expletive (passive) constructions. This is illustrated by the sentence in (8.22) which shows the object argument occurring as a “definite expression in its original postverbal position” (sic.) (Potgieter 2014). Again as in English and Afrikaans, the structural subject position in isiXhosa is thematically empty; however in isiXhosa this position is not

filled by a free morpheme (such as *there/daar* in English/Afrikaans), but is left phonetically empty (underlyingly, though, it is filled by an existential pronominal element, namely the expletive *pro*, that is associated with *ku-*) (Du Plessis & Visser 1992:72).¹³⁵

- 8.22. *Kubhalwa iincwadi (ngababhali).*
ku-bhal-w-a iin-cwadi (ng-aba-bhali)
 EXP-write-PASS-PRES.FV NC.10-book (COP-NC.2-writer)
 ‘Books are being written (by writers)’
 (Potgieter 2014)

Finally, Potgieter (2014) notes that the *ku*-construction also permits “argument reduction” with a transitive passive verb, in which case the object argument is omitted (Du Plessis & Visser 1992:73). This is illustrated by example (8.23). In such cases, who or what underwent the action is understood from the context.

- 8.23. (a) isiXhosa *there*-passive with specified object:
Kusindiswe abantu.
ku-sind-is-w-e aba-ntu
 SM.15-save-CAUS-PASS-PAST.FV NC.2-person
 “People were saved”
- (b) isiXhosa *there*-passive without specified object:
Kusindisiwe.
ku-sind-is-i(w)e
 SM.15-save-CAUS-PASS.PAST.FV
 “There was saved”
 (Potgieter 2014)

Although *ku*-passives occur quite regularly in isiXhosa (Potgieter 2014), and their Afrikaans equivalent (*deur*-passives) is included in the Afrikaans version of the REALt, these constructions are not assessed by the isiXhosa version of the REALt, given that the translation of the Afrikaans *deur*-passives into isiXhosa would render locative constructions.

8.5 Passive constructions in the REALt: General information

The REALt assesses four different types of passives, as shown in Table 8.5 below. In terms of comprehension, it assesses agentive action passives, agentless action passives and reversible passives, the latter of which includes three subtypes (namely those involving

¹³⁵ See also Zeller (2008, 2010) for generative analyses of the expletive construction in Bantu languages.

action, psychological and perceptual verbs, respectively). In terms of production, the REALt assesses action passives (with the agentive and agentless action passives combined into one task, as will be explained in section 8.7.1 below) and reversible passives (again including the three subtypes). In addition, the Afrikaans version of the REALt contains a production set for *daar*-passives.

Table 8.5. Summary of passive types and sets




Types	Subtypes	Sets	Nr. of items
Agentive action	n/a	Comprehension	10 items
Agentless action			10 items
Action passive with/out agent		Production	10 items
Reversible	n/a	Comprehension	15 items
	Action	Production	5 items
	Psychological		5 items
	Perceptual		5 items
<i>daar</i> (Afr only)	n/a	Production	5 items
			60 (English, isiXhosa) / 65 items (Afrikaans)

8.6 Comprehension of passive constructions

8.6.1 Types of passive constructions assessed in the comprehension set




Passives in the comprehension set of the REALt consist of agentive action passives, agentless action passives and reversible passives. These items in the set take the form of picture selection tasks where agentive action and agentless action passive types each comprise of 10 items and the reversible passives of 15 items. Here learners can choose between the correct picture, an opposing picture (depicting the active voice) and a distracter picture (as was the case for the quantifier as well as the binding construction comprehension sets). In each of the items, the stimulus sentence and the sentence associated with the opposing picture differ only in terms of a few function words and/or a bound morpheme. The following examples (in Tables 8.6 to 8.8) provide an overview of the different item types for each passive type of the assessment.

Table 8.6. Example of agentive action passive in the comprehension set (differentiation in terms of bound verbal suffixes)

Stimulus	Response		
<p>Show me: Bubbles is walked by Granny Gogo.</p>	<p>Picture 1: Bubbles is walking by Granny Gogo.</p> 	<p>Picture 2: Target</p> 	<p>Picture 3: Granny Gogo is walking.</p> 




In this example, there is a subtle difference between the stimulus sentence and that associated with the opposing picture (Picture 1): in the stimulus sentence the verbal suffix is the passive *-ed* and in the sentence that would describe Picture 1 the verbal suffix would be the present continuous *-ing*. In the item in Table 8.7 below the difference between the stimulus and the opposer sentences lies in the function word *by* in the stimulus sentence and *of* in the opposer sentence.

Table 8.7. Example of agentive action passive in the comprehension set (differentiation in terms of function words)

Stimulus	Response		
<p>Show me: Stevie is scared by the dog.</p>	<p>Picture 1: Stevie is scared of the dog.</p> 	<p>Picture 2: Target</p> 	<p>Picture 3: Stevie is not scared.</p> 

In the case of the reversible passives, the stimulus and opposer do not necessarily differ minimally: In Table 8.8, for example, the stimulus is *Thandi is kissed by the teddy bear* and the opposer is either *Thandi is kissing the teddy bear* or *The teddy bear is kissed by Thandi*. The reason why the REALt includes reversible passives despite the at times clear morphological differences between stimulus and opposer is that unlikely reversed passives (such as one in which a teddy bear kisses a person) allows one to establish whether a particular child truly comprehends passivisation. According to Roeper (personal communication cited in Southwood and Van Dulm 2012b:51), a child who understands passives will have the ability to correctly interpret passives denoting unlikely events, such as *Thandi is kissed by the teddy bear* or *Boxer the dog is swallowed by the bone*.

Table 8.8. Example of reversible passive in the comprehension set

Stimulus	Response		
Show me: Thandi is kissed by the teddy bear.	Picture 1: Target	Picture 2: The teddy bear is kissed by Thandi.	Picture 3: Thandi is holding the teddy bear.
			

8.6.2 Scoring of passive construction comprehension items

Correct responses to the comprehension (picture selection) task items were scored as 1, and incorrect responses were scored as either 0 (1), when the opposer (the active form) was chosen, or 0 (2), when the distracter was chosen. Where (i) the child did not provide a response or (ii) there were no data available for particular items for a particular learner (due to a task being terminated prematurely so as to not cause the learner any distress) the items were scored as 0.

8.6.3 Results: Passive construction comprehension

8.6.3.1 Afrikaans

For the Afrikaans comprehension set of passives, the data comprised all 27 participants' responses. An overall comparison of the responses given to comprehension items during Phase 1 and those given during Phase 2 indicates that the average percentage correct increased from 55 to 61% (see Table 8.9 below). The average percentage correct in Phase 1 was 47% for agentive action passives, 76% for agentless action passives and 45% for reversible passives. In Phase 1, participants thus obtained similar scores for agentive action passives and reversible passives in contrast to a much higher score for agentless action passives. However, the pattern changed in Phase 2: The average percentage correct for reversible passives in Phase 2 remained similar to that of Phase 1 (44%) whereas the average percentages correct for agentive and agentless action passives increased to 63% and 83%, respectively. Thus also in Phase 2, the participants fared better on agentless passives than on the other two types. The descriptive statistics for the comprehension of passives by the Afrikaans group are summarised in Table 8.9 below.

Table 8.9. Comparison of Afrikaans comprehension Phase 1 and Phase 2 descriptive statistics for all passive types assessed by the REALt in percentage

Variable	Afrikaans - Phase 1 Descriptive Statistics Comprehension				Afrikaans - Phase 2 Descriptive Statistics Comprehension				Phase 1 vs. 2 (Wilcoxon Matched Pairs Test; direction as indicated by Box and Whiskers plots)	
	Mean	Min	Max	Std. dev.	Mean	Min	Max	Std. dev.	p-value for comparison of Afrikaans Phases 1 and 2	% difference between mean scores
Agentive action	47	10	90	0.188	63	30	80	0.149	0.0009	16
Agentless action	76	50	90	0.121	83	50	100	0.135	0.0436	7
Reversible	45	13	67	0.146	44	13	87	0.162	0.8911	-1
Comprehension TOTAL score	55	34	74	0.094	61	46	83	0.097	0.0121	6

According to the Wilcoxon Matched Pairs Test (Table 8.9), the overall increase in average percentage correct is statistically significant. Results were better in Phase 2 than in Phase 1, indicating a significant development for the comprehension of all passive types combined. Scores for agentive and agentless action passives showed a statistically significant increase from Phase 1 to Phase 2; scores for the reversible passives type, however, showed a decrease

(although not significant). Despite the significant increase in scores, which indicates development for agentive and agentless action passives, neither of these two passive types nor the reversible passives was fully acquired by the end of Gr 1 as the average percentages correct were all below 90.

8.6.3.2 English

The data for the English comprehension comprise 29 of the 31 participants' responses; no data were available for two of the participants. An overall comparison of the responses given during Phase 1 and those given during Phase 2 shows that the average percentage correct increased from 60% to 65% (see Table 8.10 below). The average percentage correct in Phase 1 was 69% for agentive action passives, 64% for agentless action passives and 51% for reversible passives. In Phase 1, participants obtained similar scores for agentive and agentless action passives, and a lower score for reversible passives. This was also the pattern in Phase 2, where the average percentage correct was 72% for agentive action passives, 69% for agentless action passives and 58% for reversible passives. Again, participants fare better at agentive action passives than agentless action passives than reversible passives. Descriptive statistics for the English group's responses to the passive comprehension tasks are summarised in Table 8.10 below.

Table 8.10. Comparison of English comprehension Phase 1 and Phase 2 descriptive statistics for all passive types assessed by the REALt in percentage

Variable	English - Phase 1 Descriptive Statistics Comprehension				English - Phase 2 Descriptive Statistics Comprehension				Phase 1 vs. 2 (Wilcoxon Matched Pairs Test; direction as indicated by Box and Whiskers plots)	
	Mean	Min	Max	Std. dev.	Mean	Min	Max	Std. dev.	p-value for comparison of English Phases 1 and 2	% difference between mean scores
Agentive action	69	0	100	0.278	72	30	100	0.205	0.5628	3
Agentless action	64	30	100	0.229	69	40	100	0.147	0.2472	5
Reversible	51	7	93	0.253	58	20	100	0.178	0.2904	7
Comprehension TOTAL score	60	31	97	0.211	65	37	97	0.130	0.2250	5

The Wilcoxon Matched Pairs Test shows that the overall increase in average percentage correct was not statistically significant. Although the scores were higher in Phase 2 than in Phase 1, the difference between the two phases was not statistically significantly, neither for

all three passive types combined nor for any of the types individually. Furthermore, none of the English passive types were fully acquired by the end of Gr 1.

8.6.3.3 isiXhosa

The data for the comprehension of isiXhosa passives are made up of 29 of the 31 participants' responses; no data were available for two of the participants. The average percentage correct for all three passive types together increased from 82% in Phase 1 to 87% in Phase 2 (see Table 8.11 below). The average percentage correct in Phase 1 was 90% for agentless action passives, 86% for agentive action passives, and 74% for reversible passives. In Phase 1, participants thus obtained similar scores for agentive and agentless action passives, in comparison to a somewhat lower score for reversible passives. However, the pattern changed in Phase 2: The average percentage correct in Phase 2 was 82% for agentless action passives, 91% for agentive action passives, and 89% for reversible passives. Where participants fared the best with agentless action passives in Phase 1, they fared the worst with this type of passive in Phase 2. Where the reversible passive had the lowest score in Phase 1, it had the second highest in Phase 2. Where the agentive action passive had the second highest score in Phase 1, it had the highest score in Phase 2. The relevant descriptive statistics are summarised in Table 8.11 below.

Table 8.11. Comparison of isiXhosa comprehension Phase 1 and Phase 2 descriptive statistics for all passive types assessed by the REALt in percentage

Variable	isiXhosa - Phase 1 Descriptive Statistics Comprehension				isiXhosa - Phase 2 Descriptive Statistics Comprehension				Phase 1 vs. 2 (Wilcoxon Matched Pairs Test; direction as indicated by Box and Whiskers plots)	
	Mean	Min	Max	Std. dev.	Mean	Min	Max	Std. dev.	P-value for comparison of isiXhosa Phases 1 and 2	% difference between mean scores
Agentive action	86	50	100	0.121	91	50	100	0.136	0.1913	2
Agentless action	90	70	100	0.085	82	60	90	0.097	0.0078	-8
Reversible	74	47	93	0.169	89	53	100	0.159	0.0005	15
Comprehension TOTAL score	82	63	94	0.094	87	60	97	0.107	0.0155	5

The overall increase in average percentage correct for all three passive types combined was statistically significant. The direction of the significance is indicated by the Box and Whiskers plots to be in a positive direction, where the overall results were higher in Phase 2 than in Phase 1, indicating significant development for the comprehension of passives,

despite the fact that the score for agentless passives decreased significantly from Phase 1 to Phase 2. This overall significant increase can be attributed to the significant increase in correct responses to reversible passives from Phase 1 to Phase 2 and possibly also to the non-significant increase of correct responses to agentive action passives. Despite not showing a significant increase from Phase 1 to Phase 2, the agentive action passives were fully acquired by the end of Gr 1 while this was not the case for reversible passives, even though the latter did show a significant increase. Lastly, although agentless action passives showed full acquisition in Phase 1, there was regression for this passive type and the significant decrease from Phase 1 to Phase 2 caused the average score to fall below the level of full acquisition at the end of Gr 1.

8.7 Production of passive constructions

8.7.1 Types of passive constructions assessed in the production set

Passives production items in the REALt assess agentive and agentless action passives combined into one 10-item task and reversible passives with a 15-item task (the latter containing all three subtypes, namely action, psychological and perceptual passives). In each case, the task administrator provides the participant with an active sentence and then with the start of the sentence's passive counterpart, which the participant then has to complete. Unlike the reversible passive items, the Afrikaans, English and isiXhosa action passive items cannot be matched item by item. For this reason, the agentive and agentless action passives are not considered separately during data analysis and discussion as far as production is concerned. As was the case for the comprehension items, those of the reversible passives include probable and improbable scenarios, like a teddy bear being able to kiss a child (see Table 8.8). Recall that this is in accordance with Roeper's ideas that if a child truly understands how the passive works, s/he will not find improbable passives problematic (Southwood & Van Dulm 2012b:51). Tables 8.12 and 8.13 provide examples of the passive items in the production set.

Table 8.12. Example of action passive with/out agent in the production set



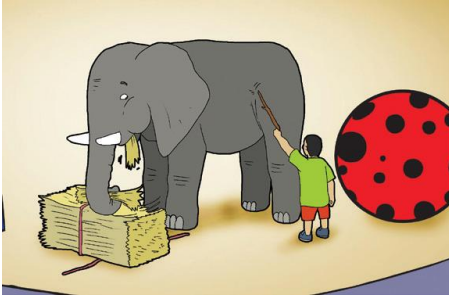


Stimulus	Target	Picture
<p>Oh dear, look at what happened here. The dogs chewed the couch. But let's say it another way. Let's start with <i>The couch</i>. <i>The couch ...</i></p>	<p>was/is (being) chewed (by the dogs). / is/was getting / got chewed (by the dogs).</p>	

Table 8.13. Examples of reversible passives with action, psychological and perceptual subtype differentiation in the production set

Stimulus	Target	Target
<p>(Action passive) Look here – Debbie is pushing Pam in the wheelbarrow. We can say this in another way. We can say <i>Pam ...</i></p>	<p>is/was (being) pushed (by Debbie) (in the wheelbarrow). / is/was getting / got pushed (by Debbie) (in the wheelbarrow).</p>	
<p>(Psychological passive) Now look here – it looks like Stevie is bothering this circus elephant with his stick. Yes, Stevie is bothering the elephant. We can say that another way; we can say <i>The elephant ...</i></p>	<p>is/was (being) bothered (by Stevie). / is/was getting / got bothered (by Stevie).</p>	
<p>(Perceptual passive) Look here, Boxer is smelling Pam. We can say that another way. We can say <i>Pam ...</i></p>	<p>is/was (being) smelled (by Boxer). / is/was getting / got smelled (by Boxer).</p>	

The last passive type, *daar*-constructions (*there*-constructions'), does not have an equivalent in English and its translation into isiXhosa renders locative constructions (see section 8.4). Therefore, it only occurs in the Afrikaans version of the REALt. The following table provides an example of this type of item.

Table 8.14. Example of *daar*-passive type in Afrikaans with English translation

Stimulus	Target	Picture
<p>Kyk hier, in hierdie prentjie verf Stevie. Maar ons kan dit op 'n ander manier ook sê. Ons kan sê <i>Daar word</i> ...</p> <p>'Look here, in this picture Stevie is painting. But we can say it in another way. We can say *<i>There is being...</i>'</p>	<p>(deur Stevie) geverf.</p> <p>'painted (by Stevie)'</p>	

8.7.2 Scoring of passive construction production items

Answers to the production task items were taken to be either correct or incorrect. The scoring for this type of item was thus done by scoring the target answer with a 1 and the non-target response with a 0. If the tense of the response did not match that of the stimulus, the respondent was not penalised for this: the use of the present (progressive) tense or past passive/progressive tense was taken as correct. None of the participants produced a GET-passive (which would have been taken as correct).

The following tables (Table 8.15 to Table 8.19) provide an indication of the different types of non-target responses and examples of such for each passive type and subtype.¹³⁶

¹³⁶ In tables 8.15 to 8.19, the abbreviation *n/a* indicates that this type of error was not made by the language group in question, whereas \surd indicates that the particular type of error was made in the data but there are no examples available to illustrate the error type (such as no responses).

Table 8.15. Examples of errors in participants' responses to the production set for action passives with/without an agent

Type of non-target response	Examples from Afrikaans	Examples from English	Examples from isiXhosa
Active forms (grammatically well-formed)	<i>John se vislyn het aan hom gehak</i> 'John's fishing line hooked onto him' <i>die vishoek het hom in die broek gesteek</i> 'the fish hook jabbed him in the pants' <i>die kar het vir hom omgestamp</i> 'the car knocked him over' <i>hulle eet die appel</i> 'they eat the apple'	<i>Bubbles reads the paper</i> <i>dog is eating the chairs</i> <i>Bubbles and Boxer is chewing the couch</i>	<i>izinja zilume isofa</i> 'the dogs chewed the couch'
Active forms (grammatically/semantically ill-formed)	<i>die bank het gekou</i> 'the couch chewed' <i>die koerant lees op</i> 'the newspaper reads up' <i>die wasgoed was vir Debbie</i> 'the washing is washing Debbie' <i>die tee skink vir Ouma Evelyn in</i> 'the tea pours in for Granny Evelyn' <i>die appel eet Mnr Zulu</i> ¹³⁶ 'the apple eats Mr Zulu' <i>die appel eet vir hom</i> 'the apple is eating him' <i>die appel eet hy</i> 'the apple he eats' <i>die bank het die honde gekou</i> 'the couch chewed the dogs' <i>die koerant lees Bubbles</i> 'the newspaper reads Bubbles' <i>die kombuis vee Ouma Gogo uit</i> 'the kitchen sweeps Granny Gogo' <i>die wasgoed het Debbie op die draad gehang</i> 'the washing hung Debbie on the line' <i>Ouma Evelyn laat Oupa George vir haar stop</i> 'Granny Evelyn lets Grandpa George stop for her'	<i>the floor is cleaning with Granny Gogo</i> <i>the tea, Granny Gogo is pouring it</i> <i>the washing, Debbie is hanging it</i>	n/a
Reversed active form	n/a	<i>Granny Evelyn says stop</i> <i>John had knocken over the car</i>	n/a

¹³⁶ Note that these sentences are classified as ungrammatical active forms in this context due to the fact that the subject and object in each active sentence are reversed and this subsequently implies that the object performed the action on the subject when it was the person in the object position that performed the action on the entity in the subject position i.e., *Mr Zulu was eaten by the apple*, instead of *The apple was being eaten by Mr Zulu*. However in a conversation where the context is different and stress is placed on the object such as a sentence may be grammatical i.e., *Die appel, eet Mnr Zulu* or *Die bank, het die honde gekou*.

Incorrect passive morphosyntax	<i>die wasgoed het op die draad gesit geword</i> ‘the washing has on the line been placed’	<i>the couch eated by a dog</i> <i>the newspaper is ridden by Bubbles</i> <i>the apple eated by Mr Zulu</i> <i>the washing was hanged to Debbie</i> <i>the tea is poured to Granny Evelyn</i> <i>the clothes are washen by Granny Gogo</i> <i>the washing hanged by Debbie</i> <i>the floor is sweapen by Granny Gogo</i> <i>the newspaper is readen by Bubbles</i> <i>the couch chewed by the dogs</i> <i>the apple get eaten</i> <i>the tea is pouring with Granny Gogo</i>	n/a
Irrelevant response / Description	<i>John loop in die pad</i> ‘John walks in the street’ <i>die koerant is stukkend</i> ‘the newspaper is broken’ <i>die kombuis is skoon</i> ‘the kitchen is clean’ <i>die tee gooi sy in ‘n koppie</i> ‘the tea she pours in a cup’ <i>lees</i> ‘read’ <i>eet</i> ‘eat’ <i>skoon</i> ‘clean’ <i>die klere moet skoon wees</i> ‘the clothes must be clean’ <i>die appel is rooi</i> ‘the apple is red’	<i>John sleeping</i> <i>John hanging clothes</i> <i>the clothes is washing</i> <i>the apple is eating</i> <i>John is fall down</i> <i>the apple is finish</i> <i>the floor is dirty</i>	<i>iphepha ndaba lifundwa yincwadi</i> ‘the newspaper is read by the book’ <i>impahla uzonekile zonke</i> ‘all the clothes are hanging’ <i>ukrazukelwe yishoti</i> ‘tore his pants’ <i>uqhuba imoto</i> ‘driving car’
No response	√	√	√

Table 8.16. Examples of errors in participants' responses to the production set for reversible action passives

Type of non-target response	Examples from Afrikaans	Examples from English	Examples from isiXhosa
Active forms of passive stimuli (grammatical)	<i>Pam stoot vir John in die kruise</i> 'Pam is pushing John in the wheelbarrow' <i>die vis vang vir John</i> 'the fish catches John'	<i>The fish was eating him</i> <i>Pam pinched Stevie</i> <i>John sees Debbie</i>	n/a
Reversed active form of passive	<i>Stevie knyp vir Pam</i> 'Stevie pinches Pam' <i>John het hom gevang</i> 'John caught him'	<i>Pam is pushing with Debbie</i> <i>Pam is pushing John</i> <i>Boxer did eat the bone</i> <i>John catch fish</i> <i>Stevie has pinched Pam</i> <i>Boxer had swallowed a big bone</i>	<i>uPam utyala uDebbie</i> 'Pam is pushing Debbie'
Active forms (ungrammatical)	<i>Pam stoot Debbie met die kruise</i> 'Pam pushes Debbie with the wheelbarrow' <i>Pam stoot in die kruise</i> 'Pam pushes in the wheelbarrow' <i>Stevie geknyp</i> 'Stevie pinched'	<i>The car knock him over</i>	n/a
Incorrect passive morphosyntax	<i>Pam word gestoot gewees</i> 'Pam was pushed been'	<i>John was eated by a fish</i> <i>Stevie was pinched to Pam</i> <i>John was caught to fish</i> <i>Boxer was swallowed to a bone</i> <i>Pam is pushen by Debbie</i> <i>John was caughted by the fish</i> <i>the children are teached by Mr Zulu</i> <i>John was getting by the fish</i> <i>Stevie is pinched Pam</i> <i>John has catched with the big fish</i> <i>Boxer eaten by bone</i>	n/a
Irrelevant response	<i>Debbie lag</i> 'Debbie laughs' <i>John was baie bang</i> 'John was very scared' <i>Stevie het seergekry</i> 'Stevie got hurt' <i>is in sy keel</i> 'is in his throat'	<i>John eaten</i> <i>Debbie was behind the tree</i> <i>The children is looking the tree</i> <i>Thandi take all the toys</i> <i>Stevie is falling down</i>	<i>Debbie uzimele emhini</i> 'Debbie hides behind the tree'
No response	√	√	√

Table 8.17. Examples of errors in participants' responses to the production set for reversible psychological passives

Type of non-target response	Examples from Afrikaans	Examples from English	Examples from isiXhosa
Active forms (grammatical)	<i>Mnr Zulu bring Ouma Gogo blomme</i> ¹³⁷ 'Mr Zulu brings Granny Gogo flowers'	<i>Mr Zulu brought flowers</i> <i>the boy was beating the elephant</i>	n/a
Active forms (ungrammatical)	n/a	n/a	n/a
Incorrect passive morphosyntax	n/a	<i>the lion was made quiet by the mouse</i> <i>Pam made sad</i> <i>the loin scared by Stevie</i> <i>Granny Gogo was thoughten by Mr Zulu</i> <i>the lion quieten by the mouse</i> <i>Pam upset by Thandi</i>	n/a
Irrelevant response	<i>Ouma Gogo bring blomme</i> 'Granny Gogo brings flowers' <i>die leeu moet stilbly</i> 'the lion has to be quiet' <i>die leeu het nie geraas nie</i> 'the lion did not make noise' <i>Pam huil</i> 'Pam cries' <i>Ouma Gogo is bly</i> 'Granny Gogo is happy'	<i>the elephant is eating the tree</i> <i>Pam want to eat the feet</i> <i>the children they are looking in the board</i> <i>the lion was told by the mouse to keep quiet</i>	<i>Pam uyalila ngoba Thandi uthathe ipaint yakhe</i> 'Pam is crying because Thandi took her paint' <i>uPam ufuna ipeyinti yakhe</i> 'Pam wants her paint' <i>intyantambo</i> 'flower'
Reversed active form of passive	<i>die leeu het vir hom skrikgemaak</i> 'the lion scared him' <i>Pam het vir haar ontstel</i> 'Pam upset her' <i>Ouma Gogo het mnr Zulu onthou</i> 'Granny Gogo remembered Mr Zulu' <i>die olifant pla vir Stevie</i> 'the elephant is bothering Stevie' <i>Ouma Gogo laat vir mnr Zulu haar blommetjies bring</i> 'Granny Gogo lets Mr Zulu bring her flowers'	<i>the children are learning</i> <i>the elephant was bothering Stevie</i> <i>the lion scared Stevie</i>	n/a
No response	√	√	√

¹³⁷ In the case of the psychological passives, the participants often changed the psychological passive to an action passive.

Table 8.18. Examples of errors in participants' responses to the production set for reversible perceptual passives

Type of non-target response	Examples from Afrikaans	Examples from English	Examples from isiXhosa
Active forms (grammatical)	n/a	<i>John was going to eat the bone but then the bone ate him</i> <i>Thandi is sitting down and the dog scratched her</i> <i>Boxer is sleeping outside and Granny Gogo is looking</i>	<i>uyamkrempha uthandile</i> 'Bubbles scratched Thandi'
Active forms (ungrammatical)	<i>Bubbles het laat Thandi hom proe</i> 'Bubbles let Thandi taste him' <i>Thandi het laat Bubbles haar voel</i> 'Thandi let Bubbles feel her'	<i>Thandi touch Bubbles</i> <i>Thandi taste Bubbles</i> <i>Bubbles lick Thandi</i>	n/a
Incorrect passive morphosyntax	<i>Bokser word gekyk</i> 'Boxer becomes looked'	<i>Bubbles is tasted Thandi</i> <i>Thandi is reached out by Bubbles</i> <i>Bubbles was licked to Thandi</i> <i>Thandi felt by Bubbles</i> <i>Pam has been smelling by Boxer</i> <i>Boxer have been seen by Granny Gogo</i> <i>Debbie is seen John</i>	n/a
Irrelevant response	<i>Die kinders luister</i> 'the children listen' <i>Thandi het laat sy val</i> 'Thandi let her fall'	<i>Bubbles tasted nice</i> <i>Thandi was thinking</i>	n/a
Reversed active form of passive	<i>Bubbles het vir Thandi geproe</i> 'Bubbles tasted Thandi' <i>Thandi het vir Bubbles gevoel</i> 'Thandi felt Bubbles' <i>Pam voel Bubbles</i> 'Pam feels Bubbles' <i>Debbie het hom gesien</i> 'Debbie saw him' <i>Bubbles het haar geproe</i> 'Bubbles tasted her' <i>Thandi het aan hom gevoel</i> 'Thandi felt him' <i>Bokser sien vir Ouma Gogo</i> 'Boxer sees Granny Gogo' <i>Pam ruik vir hom</i> 'Pam smells him'	<i>Thandi felt/feels Bubbles</i> <i>Bubbles is licking Thandi</i> <i>the children are teaching Mr Zulu</i> <i>Debbie had seen John</i> <i>Bubbles tasted Thandi</i>	<i>uDebbie ukhangela uJohn</i> 'Debbie looks at John'
No response	√	√	√

Table 8.19. Examples of errors in participants' responses to the production set for *daar*-passives

Type of non-target response	Examples from Afrikaans
Active forms (grammatical)	<p><i>daar verf Stevie op die muur</i> 'there Stevie paints on the wall'</p> <p><i>daar sit die apies en piesangs eet</i> 'there the monkeys are sitting and eating bananas'</p> <p><i>daar rol Bubbles</i> 'there Bubbles is rolling'</p> <p><i>daar eet die apies piesangs</i> 'there is monkeys eating bananas'</p> <p><i>daar speel die seuns sokker</i> 'there the boys are playing soccer'</p> <p><i>daar skop die kinders die bal</i> 'there the children are kicking the ball'</p>
Active forms (ungrammatical)	<p><i>daar verf aan die muur</i> 'there paint on the wall'</p>
Incorrect passive morpho-syntax	<p>(Wrong auxiliary verb) <i>daar het geblaf</i> 'there have barked'</p> <p>(No auxiliary verb) <i>die muur geverf deur Stevie</i> 'the wall painted by Stevie'</p> <p><i>daar skille afgehaal</i> 'there peals taken off'</p> <p><i>daar bal geskop</i> 'there ball kicked'</p> <p>(No <i>deur</i> 'by'-phrase) <i>daar word die seuns sokker gespeel</i> 'there the boys are soccer played'</p> <p><i>daar word Bubbles gerol</i> 'there is rolled Bubbles'</p> <p><i>daar word die hond hard geblaf</i> 'there the dog is barked loudly'</p>
Irrelevant response / description	<p><i>daar word die hond kwaad</i> 'there the dog gets angry'</p> <p><i>daar gesê hy gaan die heeldag speel</i> 'there said he will play the whole day'</p>
No response	√

In Phase 1, the majority of the errors for the Afrikaans group were no responses or the fact that the relevant subset was not completed because the children did not understand what to do. The first responses which were then given were either a description of the picture or entailed the active counterpart. In Phase 2, the majority of the Afrikaans group (22 out of 27) did complete the subset, and the error types changed from no responses to active counterparts to reversed active counterparts as the majority of the participants started an active sentence with the object (which would be the subject in the passive sentence).

In Phase 1, the English group mainly did not respond to the stimuli and if they did, they responded with a simple and at times incoherent sentence, which described the picture in which the active counterpart was used. Unfortunately, fieldworkers often failed to record exactly what the participants in the English group said during Phase 1 when they did give a response, so specific error analysis could not be done. In Phase 2, the English group responded more frequently to the stimuli and gave responses that contained the incorrect passive morpho-syntax: either the tense was incorrect, the auxiliary verb was left out or the *by* in the *by*-phrase was left out. Errors also occurred with the form of the passive participle, especially with irregular passive participles.

The isiXhosa group made very few errors. Where they did make errors, these included active and reversed active counterparts of the passive sentence or completely irrelevant responses.

8.7.3 Results: Passive construction production

8.7.3.1 Afrikaans

For the Afrikaans production of passives, four passive types were tested in three separate item blocks: (i) agentive action and agentless action passives were combined in one block named “action passives with/out agent”, (ii) reversible passives were tested according to the three subtypes of action, psychological and perceptual passives, and (iii) *daar*-passive constructions formed the last item block. The data on Afrikaans passives consist of all 27 participants’ responses. A comparison of the overall responses indicates that the average percentage correct increased from 13% in Phase 1 to 38% in Phase 2 (see Table 8.20 below).

The average percentage correct in Phase 1 was 11% for action passives with/out agent. For the reversible passives, the average percentage correct was 12% for action passives, 7% for

perceptual passives, and 3% for psychological passives. In Phase 1, the *daar*-construction had an average percentage correct of 33%. The pattern in Phase 1 remained similar in Phase 2, with one exception: The average percentage correct in Phase 2 for action passives with/out agent was 36%. For the reversible passives, the average percentage correct was 43% for action passives, 36% for perceptual passives and 35% for psychological passives. In Phase 2, the *daar*-construction had an average percentage correct of 42%. Where the *daar*-construction had the highest score and was considerably higher (with approximately 21% difference) than that of the other three item blocks in Phase 1, the difference between the three items blocks in Phase 2 was insignificant. The descriptive statistics for the passives production data of the Afrikaans group are summarised in Table 8.20 below.

Table 8.20. Comparison of Afrikaans production Phase 1 and Phase 2 descriptive statistics for all passive types assessed by the REALt in percentage

Variable	Afrikaans - Phase 1 Descriptive Statistics Production				Afrikaans- Phase 2 Descriptive Statistics Production				Phase 1 vs. 2 (Wilcoxon Matched Pairs Test; direction as indicated by Box and Whiskers plots)	
	Mean	Min	Max	Std. dev.	Mean	Min	Max	Std. dev.	p-value for comparison of Afrikaans Phases 1 and 2	% difference between mean scores
Action passive with/out agent	11	0	70	0.201	36	0	100	0.391	0.0077	25
Reversible: Action passive	12	0	80	0.217	43	0	100	0.429	0.0046	31
Reversible: Perceptual passive	7	0	80	0.192	36	0	100	0.464	0.0084	29
Reversible: Psychological passive	3	0	40	0.107	35	0	100	0.432	0.0027	22
<i>Daar</i> -passive construction	33	0	80	0.266	42	0	100	0.401	0.2586	9
Production TOTAL score	13	0	57	0.151	38	0	97	0.345	0.0030	25

Based on the results of the Wilcoxon Matched Pairs Test (Table 8.20), the increase in overall average percentage correct is statistically significant. Results were better in Phase 2 than in Phase 1, indicating a significant development for the overall production set. The action passives with/out agent and the three reversible passive subtypes each showed a statistically significant increase in average percentage correct scores from Phase 1 to Phase 2, but the *daar*-passive type did not increase significantly from Phase 1 to Phase 2. Despite the significant increase which indicates development for action and reversible passive subtypes, passive production was not fully acquired by the end of Gr 1, as none of the average percentages correct were above 90.

8.7.3.2 English

The data for the English passives production set comprise 29 of the 31 participants' responses as no data were available for two of the participants. An overall comparison of the responses given during Phase 1 and Phase 2 of testing indicates that the average percentage correct responses decreased from 27% to 11% (see Table 8.21 below). The average percentage correct in Phase 1 for action passives with/out agent was 30%. For the reversible passives, the average percentage correct was 26% for action passives, 24% for psychological passives, and 23% for perceptual passives. The pattern in Phase 1 differed greatly from that in Phase 2: The average percentage correct in Phase 2 for action passives decreased to 12%. For the reversible passives, the average percentage correct was 14% for perceptual passives, 11% for the action passives and 6% for psychological passives. The descriptive statistics of the English passive production data are summarised in Table 8.21 below.

Table 8.21. Comparison of English production Phase 1 and Phase 2 descriptive statistics for all passive types assessed by the REALt in percentage

Variable	English - Phase 1 Descriptive Statistics Production				English - Phase 2 Descriptive Statistics Production				Phase 1 vs. 2 (Wilcoxon Matched Pairs Test; direction as indicated by Box and Whiskers plots)	
	Mean	Min	Max	Std. dev.	Mean	Min	Max	Std. dev.	p-value for comparison of English Phases 1 and 2	% difference between mean scores
Action passive with/out agent	30	0	90	0.359	12	0	80	0.219	0.0299	-18
Reversible: Action passive	26	0	100	0.334	11	0	60	0.211	0.0464	-18
Reversible: Perceptual passive	23	0	100	0.330	14	0	80	0.267	0.2859	-9
Reversible: Psychological passive	24	0	100	0.356	6	0	80	0.170	0.0191	-18
Production TOTAL score	27	0	88	0.333	11	0	68	0.193	0.0176	-16

The overall decrease in average percentage correct from Phase 1 to Phase 2 is statistically significant (Wilcoxon Matched Pairs Test and the Box Whiskers plots; see Table 8.21). Scores were higher in Phase 1 than in Phase 2, and both action and psychological passives showed a statistically significant decreased in average percentage correct scores from the start to the end of the Grade 1 year. Also, none of the English passive types and subtypes was fully acquired at the end of Gr 1 as none of the average percentage correct scores was above 90.

8.7.3.3 isiXhosa

For the isiXhosa passive production set, data consisted of 29 participants' responses; no data were available for two of the participants. A comparison of the overall scores during Phase 1 and Phase 2 indicates that the average percentage correct increased from 55% to 92% (see Table 8.22 below). The average percentage correct in Phase 1 for action passives with/out agent was 53%. For the reversible passives, the average percentage correct was 70% for action passives, and 50% and 48% for psychological and perceptual passives, respectively. The pattern in Phase 1 changed in Phase 2: The average percentage correct in Phase 2 for action passives with/out agent increased to 94% (the highest score for passives, whereas it was the second highest score in Phase 1). For reversible passives, the average percentage correct was 94% for action passives, 91% for perceptual passives and 86% for psychological passives (note that the order differed from that in Phase 1). The descriptive statistics of the isiXhosa passive production data are summarised in Table 8.22 below.

Table 8.22. Comparison of isiXhosa production Phase 1 and Phase 2 descriptive statistics for all passive types assessed by the REALt in percentage

Variable	isiXhosa - Phase 1 Descriptive Statistics Production				isiXhosa - Phase 2 Descriptive Statistics Production				Phase 1 vs. 2 (Wilcoxon Matched Pairs Test; direction as indicated by Box and Whiskers plots)	
	Mean	Min	Max	Std. dev.	Mean	Min	Max	Std. dev.	p-value for comparison of isiXhosa Phases 1 and 2	% difference between mean scores
Action passive with/out agent	53	0	100	0.305	94	60	100	0.106	0.0000	41
Reversible: Action passive	70	0	100	0.357	94	40	100	0.130	0.0029	24
Reversible: Perceptual passive	48	0	100	0.323	91	20	100	0.182	0.0000	43
Reversible: Psychological passive	50	0	100	0.345	86	0	100	0.244	0.0003	36
Production TOTAL score	55	0	96	0.302	92	44	100	0.130	0.0000	44

The Wilcoxon Matched Pairs Test (Table 8.22) shows that the overall increase in average percentage correct is statistically significant. The results were higher in Phase 2 than in Phase 1, indicating significant development for passive production in general over the course of the Gr 1 year. The action passives with/out agent and all three reversible passive subtypes showed a statistically significant increase in average percentage correct scores from Phase 1 to Phase 2. All of the isiXhosa passive types and subtypes were fully acquired by the end of Gr 1, with the exception of reversible psychological passives (86% correct).

8.8 Comparison of passive constructions for English- and isiXhosa LOLT

The comparison between the English LOLT and the isiXhosa LOLT groups shows that there is a clear distinction between the two groups in terms of both comprehension and the production skills. For each passive set, type and subtype, there is a statistically significant difference between the two LOLT groups, with the isiXhosa LOLT group consistently obtaining higher scores than the English LOLT group (see Table 8.23 below). The only passive task for which there was no significant difference between the two groups was the comprehension task involving agentive action passives in Phase 1, but here the isiXhosa group still obtained higher scores than the English group.

Table 8.23. Results of Mann-Whitney U Test (with continuity correction) for English and isiXhosa Phase 1 and 2 for all passive types tested by the REALt

	p-value for comparison of English Phase 1 with isiXhosa Phase 1	p-value for comparison of English Phase 2 with isiXhosa Phase 2	Box and Whiskers plots indicate:
Comprehension scores			isiXhosa > English
Agentive action	0.052852	0.000173	
Agentless action	0.000018	0.000760	
Reversible	0.000454	0.000001	
Comprehension TOTAL score	0.000196	0.000000	
Production scores			
Action with/out agent	0.007831	0.000000	
Reversible: Action passive	0.000076	0.000000	
Reversible: Perceptual passive	0.007477	0.000000	
Reversible: Psychological passive	0.007138	0.000000	
Production TOTAL score	0.001595	0.000000	
Passives TOTAL score	0.000338	0.000000	

The following two figures show the Box and Whiskers plots of the passive comprehension and production scores as well as the total scores, respectively, for English and isiXhosa.

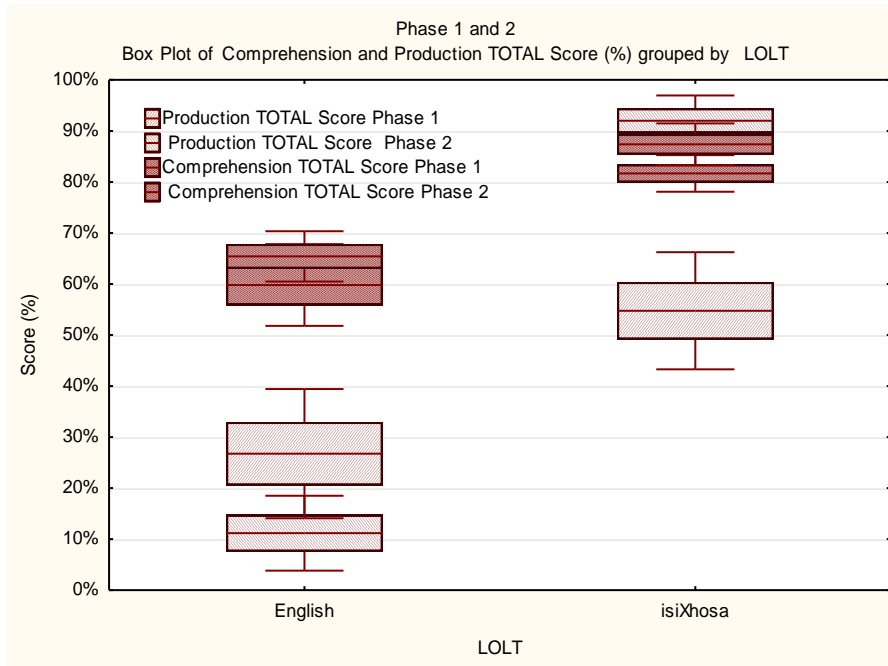


Figure 8.10. Comprehension and production total scores for all passive types for Phase 1 and 2 (%) grouped according to LOLT

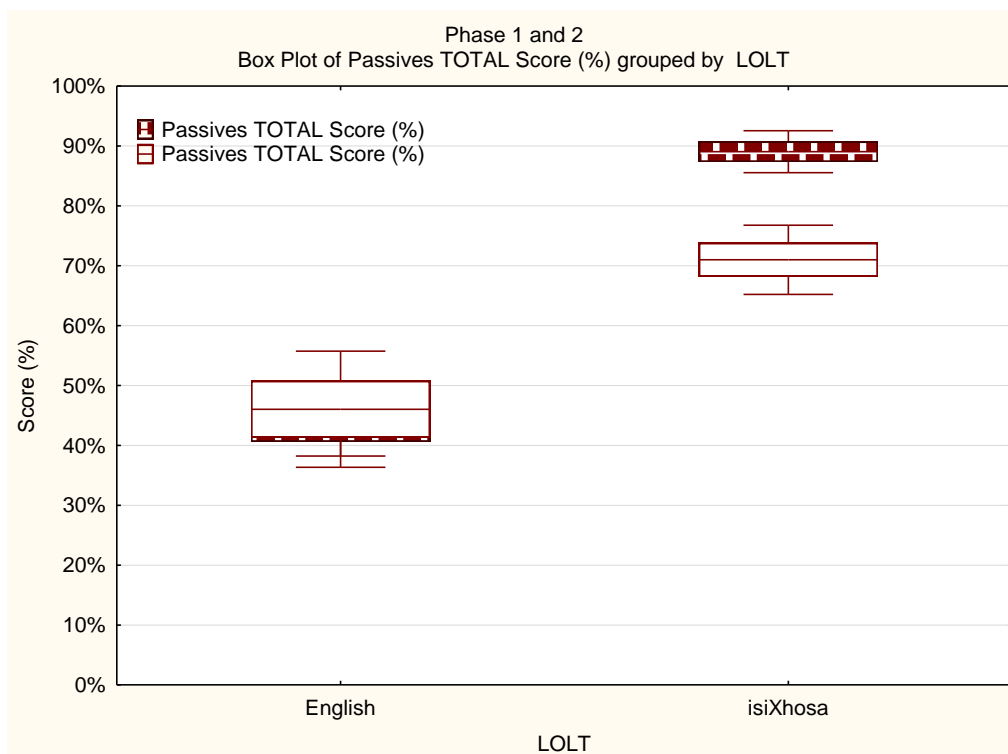


Figure 8.11. Total scores for all passive types for Phase 1 and 2 (%) grouped according to LOLT

Based on the p-values and the Box and Whiskers plots, the participants with English as LOLT had much lower scores (between 40% and 50%) than those with isiXhosa as LOLT (around 90%) for the total passive scores. The passive is reported to be acquired earlier by

monolinguals in Sesotho and isiXhosa than in Afrikaans and English (see Demuth 1989 and Potgieter 2014). This finding is supported by the results of the study reported here. Potgieter (2014) found that Afrikaans-English-isiXhosa trilingual 4-year-olds do not display a delay in their acquisition of the passive compared to monolingual speakers of the three languages, despite trilinguals necessarily having reduced levels of input for each of their three languages. Potgieter interprets the fact that the passive is not delayed in trilinguals as evidence of cross-linguistic bootstrapping, where trilinguals seem to be transferring their knowledge of the passive in isiXhosa to English and Afrikaans, enabling the earlier acquisition of this construction (i.e., earlier than for monolinguals) in English and Afrikaans. For the majority of the English group in this study, isiXhosa is their L1. Following the findings in the Potgieter (2014) study, one could thus argue that transfer from L1 isiXhosa to L2 English should have taken place in the current study too, but this was not found to be the case. Despite the fact that Potgieter (2014) states that deficiency in input only affects lexical development and not grammatical development (where grammatical development was measured in terms of the acquisition of the passive construction only), the lack of transfer in the current study could be attributed to the fact that the participants had not received adequate input in English at the time of testing: the minimum length of exposure was one month (for the majority of participants) and the maximum was three years – all of which occurred only at the crèche or daycare centre and not at home.¹³⁸ An additional difference between Potgieter’s trilinguals and the current study’s English LOLT participants is that English was being acquired by the trilinguals as one of their three L1s (thus as part of simultaneous L1 acquisition), whereas English was being acquired by the current study’s English group as an additional language, i.e., as an L2, instead of isiXhosa and English being acquired simultaneously.

8.9 Conclusion

Ud Deen (2011:162) drew the following conclusions regarding the acquisition of passive constructions:

- (i) “The passive is generally delayed, with acquisition not being complete until well after age 6 years.
- (ii) The ability to imitate passives is acquired before the ability to comprehend passives, which in turn is acquired before the ability to produce passives.

¹³⁸ See Tables E.5 and E.6 of Appendix E for a specific overview of the participants’ length of exposure to English.

- (iii) Passives occurring with non-actional verbs are significantly more problematic for children than passives occurring with actional verbs.
- (iv) So-called ‘long’ passives (with an overt *by*-phrase) are more difficult for children than short passives (with no *by*-phrase).”

(Ud Deen 2011:162)

The following table provides an overview of the age of acquisition of passives according to (i) the relevant literature reviewed in section 8.3 and (ii) the results obtained by Southwood and Van Dulm (2012b:51-56) for the passives which they tested. The table also includes (iii) a summary of the results of the current study on the age of acquisition of passives with learners with low SES.

Table 8.24. Comparison of comprehension and production age of acquisition in the relevant literature, results obtained by Southwood and Van Dulm (2012b) and the results of the current study

Passive type	Acquisition according to the literature	REALt (Southwood and Van Dulm 2012b)		Acquisition according to the present data		
		Afrikaans	English	Afrikaans	English	isiXhosa
	Age in years		Age in years; months			
Comprehension						
Passives overall	after 5	5-6	4	only after (6;9-8;3)	only after (6;9-8;2)	end of Gr 1 (6;10-9;7)
	or earlier 3-4					
	Baldie (1967) approx. 6					
Agentive action passives (long passives)	after short passives / at 9	5	4	only after (6;9-8;3)	only after (6;9-8;2)	end of Gr 1 (6;10-9;7)
Agentless action passives (short passives)	before long passives	5	4			only after (6;10-9;7)
Reversible passives	11	6	4			
Production						
Action passives with/out agent	n/a	6-8	4	only after (6;9-8;3)	only after (6;9-8;2)	end of Gr 1 (6;10-9;7)
Reversible action passives	5	8	5-6			
Reversible perceptual passives	9-11					only after (6;10-9;7)
Reversible psychological passives		only after (6;10-9;7)				

Recall that whereas one group of studies found that there is a general and apparent delay in the acquisition of the passive (specifically, that the passive is fully developed some time after the age of 5 years), a second group of (more recent) studies found that the passive may be acquired earlier, possibly at the age of 3 to 4 years. Also recall from section 8.3, that the earlier development of passives are not only restricted to Bantu languages but also occurs in

Inuktitut (Allen & Crago 1996), and K'iche' Maya (Pye 1992; Pye & Quixtan Poz 1988). These studies also used exclusively natural production data from which it is unclear what syntactic and semantic interpretation children are applying to the various productions along with the differences in the morphosyntactic means by which passive constructions are formed in various languages. The results from this study concur with those of the first group, namely that passives are later developing as passives in this study were fully acquired at the age of 6;10 to 9;7 at the earliest. It is however clear that the passive is not acquired as early as 3 years of age, as Fraser et al. (1963) found that 3-year-olds were generally unable to deal with both comprehension and production and even had difficulty with imitating passives. Baldie (1976) found that children can imitate passives before the age of 5 years, while they can comprehend passives at the age of approximately 6 and finally produce passives as late as the age of 7;6.

A distinction in terms of age of acquisition for different passive types has also been reported. Ud Deen (2011:162) stated that typically developing children acquire actional passives by the age of 4 to 5 years but psychological passives only after the age of 9 years, possibly closer to the age of 11 years (Maratsos et al. 1985:181), but that no such deficit for psychological verbs is apparent in the acquisition of the active voice (Hirsch & Wexler 2006:2). In the current study, action passives were not only later developing but the percentages correct were far lower for perceptual and psychological passives than for the actional passives for the Afrikaans and isiXhosa groups in both phases, whereas perceptual passives were only 3% higher than action passives in Phase 2 for the English group.

Turning to the acquisition of long versus short passives and the role that the *by*-phrase plays in the acquisition of the passive construction: Recall that Horgan (1978) found that short passives are acquired before long passives. Agentive non-reversible passives in Horgan (1978) occurred only after the age of 9 years. Accordingly, passive constructions can be said to be unmistakably late-developing despite the fact that some types (specifically action passives) are already understood by 4-year-olds. For the Afrikaans group, it was definitely the case that both long and short passives are later developing and that short passives may be acquired earlier than long passives. This was shown by the difference of at least 20% between the Afrikaans scores for short and long passives in both phases.

The English group had higher average scores (by 4%) for long passives than for short passives. This is contra the general consensus in the literature. As stated in section 8.3, English short passives may be ambiguous with adjectival passive sentences; the meaning of the phrases and whether they are in the active or passive voice can only be distinguished in the long passive form – compare, for instance, *The vase is broken* (which could be a passive “The vase is broken by an unspecified entity” or an adjectival construction “The vase is no longer whole”) with the unambiguous long passive form *The vase is broken by Mary*. This ambiguity of short passives might be the reason for the English group faring better with long than with short passives. However, such ambiguity also exists in Afrikaans, but short passives were acquired earlier than long passives by the Afrikaans group. The reason why the English group, unlike the Afrikaans group, fared better with long than with short passives is thus not entirely clear.

Such ambiguity in terms of short passives does not exist in the case of isiXhosa passive constructions and one would therefore not expect the isiXhosa group to fare better on long passives, which they did (to a small extent), contrary to the general finding in the literature on the acquisition of long versus short passives. The isiXhosa passive scores for long and short passives were very similar, and the scores for the agentive action passives increased from Phase 1 to 2 whereas those of the agentless action passive decreased (as was found for quantifiers in isiXhosa, with these two aspects being the only ones for which scores decreased over the Gr 1 year). The verb morphology in isiXhosa is also far more complex than that of Afrikaans and English in long and short passives. Whereas the verb morphology remains the same in the presence of a *by*-phrase in Afrikaans and English, this is not the case in isiXhosa. Recall that in isiXhosa, the short form of the present tense occurs in long form passive expressions where the verb is unstressed and is followed by an expression such as an object or an adverb. The long form of the present tense occurs in short form passive expressions where the verb is not followed by an object or an adverbial expression, and if the verb receives primary stress, it may occur with *-ya-* regardless of whether it is followed by any other expression. Thus short passives in Afrikaans and English may be considered easier than short passives in isiXhosa, because the child does not have to include a *by*-phrase and an agent in Afrikaans and English, and because the verb morphology remains similar across different types of passive constructions. In isiXhosa, the verb morphology involves a verbal infix in the short passive but not in the long passive, making the long passive less complex to an extent, which might account for its earlier acquisition than short passives.

Lastly, Southwood and Van Dulm (2012b:51-56) report that the participants in their study found reversible passives more difficult than action passives. This was also the case in the current study for the Afrikaans and English groups, where the scores for reversible passives were the lowest of all the scores in both phases. In isiXhosa, this was true for Phase 1 but not Phase 2 in which the reversible passives had the second highest score.

In conclusion, only isiXhosa passives (not Afrikaans or English) were fully acquired by the end of Gr 1, with the exception of reversible psychological passives which were not yet fully acquired. The following table shows that significant development occurred from Phase 1 to Phase 2 for all passive types (comprehension and production) in the Afrikaans and isiXhosa groups (despite the fact that full acquisition was not apparent at the end of Gr 1 for the Afrikaans group). Development did occur for the comprehension set of the English group; however it was not significant. Where significant changes did occur for the English group, this occurred in a negative direction, i.e. with lower scores in Phase 2 than in Phase 1. Significant positive development is indicated in the last column by means of bold print where the results in Phase 2 were higher than in Phase 1.

Table 8.25. Results of Wilcoxon Matched Pairs Test for Afrikaans, English and isiXhosa comprehension and production total scores for Phase 1 and 2 with direction indicated by Box and Whiskers plots

Variable	p-value for comparison of Phase 1 with Phase 2	Direction
Afrikaans comprehension	0.012100	Phase 2 > Phase 1
English comprehension	0.225030	Phase 2 > Phase 1
isiXhosa comprehension	0.015452	Phase 2 > Phase 1
Afrikaans production	0.002963	Phase 2 > Phase 1
English production	0.017621	Phase 1 > Phase 2
isiXhosa production	0.000011	Phase 2 > Phase 1
Afrikaans all passives TOTAL score	0.000502	Phase 2 > Phase 1
English all passives TOTAL score	0.932987	Phase 1 > Phase 2
isiXhosa all passives TOTAL score	0.000004	Phase 2 > Phase 1

The following chapter provides an overview of the study. The research questions posed in chapter 1 are answered in chapter 9, the theoretical and applied implications of the findings are discussed, and recommendations are made about the study and about future research in the field of later developing language constructions.

Chapter 9

Conclusions and recommendations

9.1 Introduction

This study investigated the language skills of 89 children of three different languages, namely 27 Afrikaans, 31 English and 31 isiXhosa, during their Grade 1 year. The Afrikaans and isiXhosa groups were (fairly) monolingual and had their L1 as LOLT. By contrast, the English group mostly had isiXhosa as L1, were mostly beginner learners of English as L2, and had their L2 English as LOLT. All of the children were from low SES backgrounds and attended a school which did not charge school fees located in or just outside a medium-sized rural town. The literature on children from low SES households indicates that such children enter school with delayed language and pre-literacy skills compared to their middle-class peers, and that they tend to fall further behind as they progress through the school grades. The current study assessed with what level of language skills these children entered school and what progress took place over their Grade 1 year. The study also compared the two groups with isiXhosa as L1 in order to ascertain whether and how the two groups differed in terms of their command, in their LOLT, of those LDCs commonly found in classroom discourse. The LDCs on which the study focused were articles (chapter 5), quantifiers (chapter 6), binding relations (chapter 7) and passives (chapter 8).

Two research questions were posed, namely

1. How well do low SES Gr 1 learners with Afrikaans, English or isiXhosa, respectively, as LOLT perform at the beginning of Gr 1 and at the end of Gr 1 on tasks measuring the comprehension and production of selected LDCs? Specifically, which LDCs remain problematic for learners at the end of Gr 1?
2. Does the answer to research question 1 differ for the English LOLT and isiXhosa LOLT learners (where both groups have predominantly isiXhosa as L1), and, if so, how does the answer differ?

Research question 1 is answered separately for each of the three languages in section 9.2, and research question 2 is answered in section 9.3. On the basis of these answers, the specific contribution of the study is discussed in section 9.4. As discussed in chapter 1, one needs to

consider more than the age of the child and the expected order of acquisition of LDCs when interpreting the data of a study with the nature of the current one; language development and acquisition occurs as a result of a complex interaction between individual child factors and contextual variables, as outlined in chapters 1 and 2. The socio-cultural environment in which the child acquires language and the quality and quantity of the language input the child receives also influence the specific language skills with which the child enters and leaves Gr 1. As discussed in chapter 4, the socio-cultural environment in which the study was conducted influenced the methodology used and the lens with which the data were interpreted. These practical effects are outlined in section 9.4 below. The limitations of the study and suggestions for further research are discussed in section 9.5.

9.2 Summary of language groups' performance on LDCs at the beginning and end of Grade 1

This section provides a summary of the data by means of a comparison between the four LDCs examined in the study and the level of mastery for comprehension and production at the start and the end of Gr 1 for each language, before discussing the scores for each language separately. Table 9.1 gives the mean scores for each of the four LDCs discussed in chapters 5 to 8 in terms of the cumulative comprehension (of all comprehension subtypes) and cumulative production (of all production subtypes) as well as the total scores for each LDC (the combined comprehension and production scores where available), for Afrikaans, English and isiXhosa. The table does not include comparisons and differentiation in terms of the subtypes or subsets of each LDC as these were given in detail in chapters 5 to 8.

Table 9.1. Summary of comprehension, production and total scores for articles, quantifiers, binding relations, and passives in Afrikaans, English and isiXhosa

Construction type		Afrikaans		English		isiXhosa	
		Start of Gr 1	End of Gr 1	Start of Gr 1	End of Gr 1	Start of Gr 1	End of Gr 1
Articles	Comprehension	55	67	45	77	n/a	
	Production	57	61	20	18	n/a	
	Total	55	61	27	36	n/a	
Quantifiers	Comprehension	63	65	47	64	87	85
	Production	62	71	35	53	98	97
	Total	62	68	42	59	91	90
Binding relations	Comprehension	58	68	40	52	69	74
	Production	43	41	11	46	n/a	
	Total	52	57	27	50	n/a	
Passives	Comprehension	55	61	60	65	82	87
	Production	13	38	27	11	55	92
	Total	35	50	46	42	70	89

A comparison between the four LDCs in each language is drawn in the subsections below.

9.2.1 Afrikaans

The graph below provides an overview, which is discussed below, of the four LDCs assessed in Afrikaans and the mean score in percentage for the comprehension and production as well as the total scores at the start and the end of Gr 1.

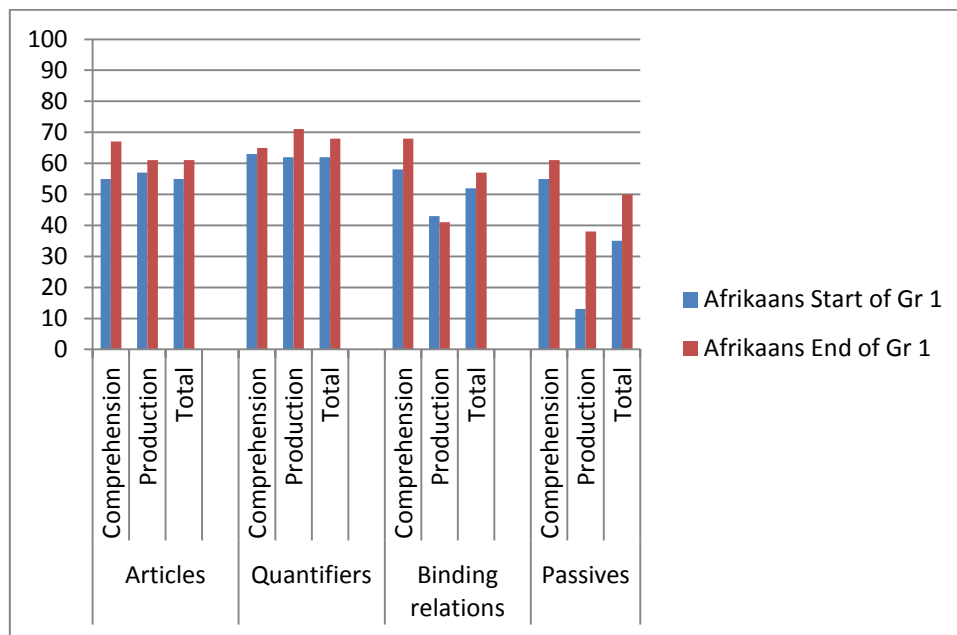


Figure 9.1. Summary of comprehension, production and total scores for articles, quantifiers, binding relations, and passives in Afrikaans

Figure 9.1 indicates that the Afrikaans group overall fared best with quantifiers. For both the comprehension and production of quantifiers, there was an increase in the mean scores from the start to the end of Gr 1. In Phase 1 and in Phase 2, the comprehension scores were higher than the production scores. Based on the total score, development occurred for the Afrikaans group in terms of quantifiers; this development was however not statistically significant and, overall, quantifiers had not been mastered by the Afrikaans group, neither at the start nor at the end of Gr 1.

The Afrikaans group also fared well with articles. Here again, both the comprehension and production mean scores showed an increase from the start of Gr 1 to the end of Gr 1. In Phase 1, the comprehension score was slightly lower than the production score, in contrast to Phase

2 in which the comprehension score was higher than the production score. The total score (comprehension and production combined) also showed an increase, and this increase was statistically significant ($p = 0.024$). Despite this increase, neither the comprehension nor the production of rules 1 and 2 had been mastered by the end of Gr 1.

Knowledge of Principles A and B of Binding Theory as applicable to the comprehension of reciprocal, reflexive, personal and possessive pronouns had approximately the same scores as did quantifiers and articles, in contrast to the production score which was lower. This difference between the comprehension and production scores increased from the start of Gr 1 to the end of Gr 1. Whereas the comprehension scores increased statistically significantly over the course of the Gr 1 year ($p = 0.0058$), production scores showed a slight decrease. The combined score for comprehension and production increased statistically significantly from the start to the end of Gr 1 ($p = 0.021$). Despite the significant development and the fact that reciprocal pronouns were mastered at the end of Gr 1 for the Afrikaans group, Principle A had not yet been completely mastered by the end of Gr 1 as both reciprocals and reflexives have to be mastered in order for Principle A to be mastered. Principle B had also not been fully acquired by the start or the end of Gr 1.

For passives, the comprehension score is at approximately the same level as those of articles, quantifiers and binding relations at the start of Grade 1; the production score is however much lower. From the start to the end of Gr 1, both the comprehension ($p = 0.012$) and production ($p = 0.003$) scores show statistically significant development. The increase from the start of Gr 1 to the end of Gr 1 for the total score was also statistically significant ($p = 0.001$). Despite the significant development which occurred, the passive construction was not acquired fully by the end of Gr 1.

The Afrikaans group thus at the start and at the end of Gr 1 fared best with quantifiers, but the development which occurred over the course of the school year for this construction type was not significant. For passives ($p = 0.001$), articles ($p = 0.024$) and binding relations ($p = 0.021$), however, the overall development was significant, showing that, despite the fact that none of these three LDCs were acquired fully by the end of Gr 1, the Afrikaans learners still made significant progress during Gr 1.

9.2.2 English

Figure 9.2 provides an overview of the four LDCs assessed in English and the mean score in percentage for the comprehension, production and total scores at the start and the end of Gr 1. These scores are discussed below.

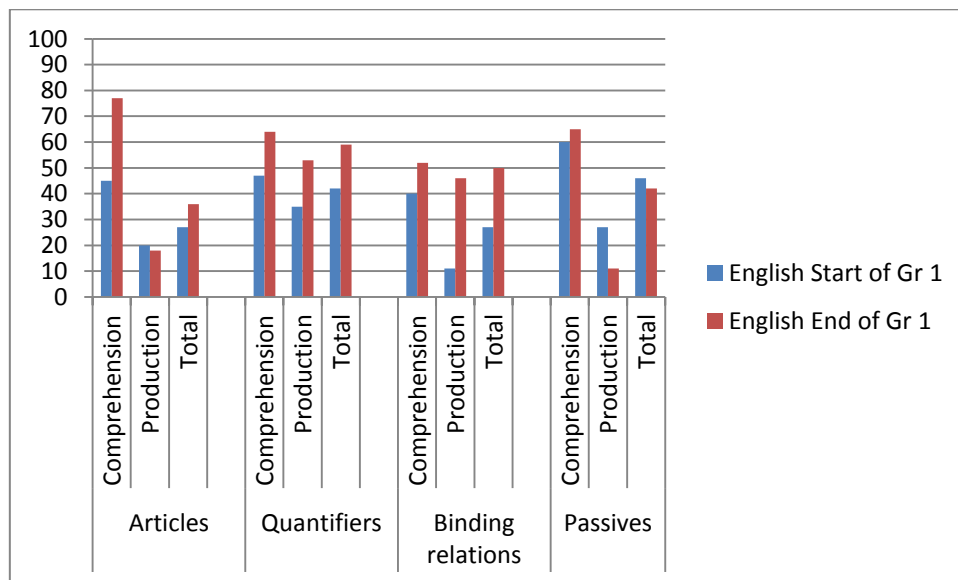


Figure 9.2. Summary of comprehension, production and total scores for articles, quantifiers, binding relations, and passives in English

From the graph above, it becomes clear that the English group struggled with all four LDCs at the start of Gr 1. For the comprehension set, passives had the highest score, followed by quantifiers, articles and binding relations (in that order). This was in contrast to the production set, where scores for quantifiers were the highest followed by those for passives, articles and binding. At the beginning of Gr 1, scores were low, with comprehension scores falling between 40% and 60% (meaning that on average the child only comprehended 50% of the stimuli received) and production scores falling between 11% and 35%. The total scores were between 27% and 46%, with the scores reflecting those of the comprehension subset, so passives had the highest score followed by quantifiers and then by articles and binding (which had the same score).

The trends apparent at the end of Gr 1 were completely different to those at the start of Gr 1. For comprehension, articles had the highest score at the end of Gr 1, followed by passives, quantifiers and binding relations (in that order). For all four LDCs, there was an increase in

comprehension scores from the start to the end of Gr 1, which showed that development took place in terms of language comprehension over the course of the school year. This development was however only significant for quantifiers ($p = 0.000$), articles ($p = 0.000$), and binding ($p = 0.002$). The development of passive comprehension was not significant ($p = 0.225$).

For production, quantifiers had the highest score at the end of Gr 1 followed by binding relations, articles and passives. For quantifiers and binding relations, the production scores increased significantly from the start of Gr 1 to the end of Gr 1 ($p = 0.000$ and $p = 0.005$, respectively). The article production score decreased over the course of the Gr 1 year but not significantly so ($p = 0.471$), whereas the score did decrease significantly for passives ($p = 0.018$).

In terms of the combined comprehension and production score for each LDC, the highest score was for articles followed by that for quantifiers, binding relations and passives. The scores for all four LDCs showed a statistically significant increase: Binding relations ($p = 0.000$) showed the most development overall, followed by quantifiers ($p = 0.000$), articles ($p = 0.000$) and passives ($p = 0.018$), the latter despite the significant decrease in the passive production score from Phase 1 to Phase 2. Even with the significant development evident for all four LDCs, none of the LDCs were mastered by the end of Gr 1, yet the learners can still be said to have made progress in terms of LDC comprehension and production during the course of Gr 1.

9.2.3 isiXhosa

The graph below and the discussion that follows pertain to the three LDCs assessed in isiXhosa (recall that articles could not be assessed). The graph indicates the mean scores (in percentage) for the comprehension and production as well as the combined scores at the start and the end of Gr 1.

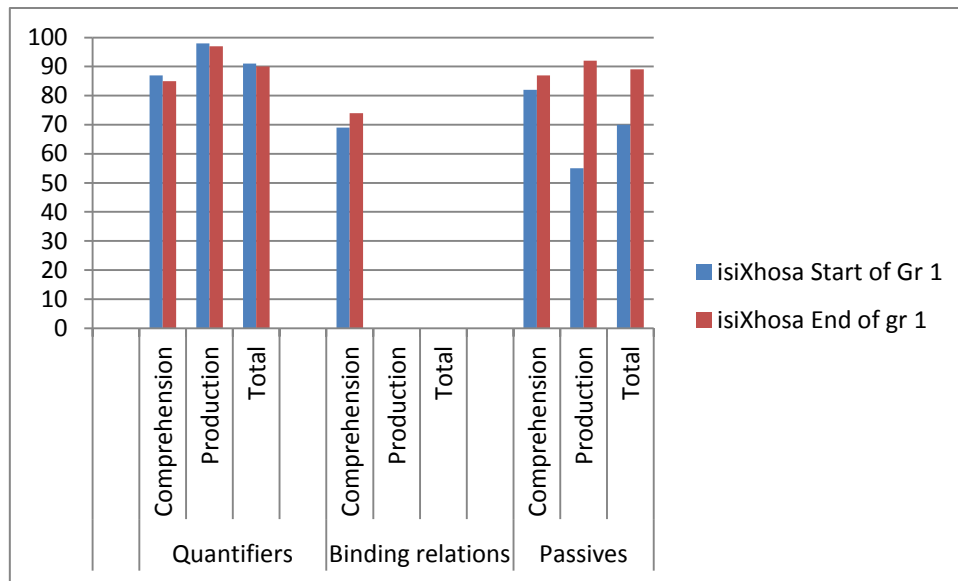


Figure 9.3. Summary of comprehension, production and total scores for quantifiers, binding relations, and passives in isiXhosa

As indicated in the graph, the isiXhosa group fared best with quantifiers at the start and the end of Gr 1. In terms of comprehension, the quantifiers *no/none* and *any* were already fully acquired at the start of Gr 1, and *all* was fully acquired at the end of Gr 1. The quantifiers *many/more/most*, *some* and *every* were not yet acquired by the end of Gr 1 but had high mean scores, ranging from 80 to 88%. Despite the fact that three of the six quantifiers were fully acquired by the end of Gr 1, the comprehension of quantifiers cannot be said to be mastered by the end of Gr 1, because the other three were not yet fully acquired. The production of all quantifiers was fully acquired at the start of Gr 1. When taking the total score (for comprehension and production combined) into consideration, quantifiers have been acquired by the start of Gr 1, but one should note that the very high production scores pull up the comprehension scores (which were very close to but not at mastery level) in the combined average score. No significant development occurred from the start to the end of Gr 1 in terms of quantifier comprehension or production as scores were already very high at the start of the year and could therefore only improve to a limited extent.

When considering passives, comprehension of this construction was on the same level as that of quantifiers at the start and at the end of Gr 1 and also showed a significant increase ($p = 0.015$) in scores from the start to the end of the year. The passive production scores were substantially (27%) lower than the comprehension scores at the start of Gr 1, but showed a significant increase ($p = 0.000$) from the start to the end of the Gr 1 year. This increase in the

production scores was larger than that in the comprehension scores, and development took place to such an extent that the production of passives was mastered by the end of Gr 1. The total scores for passives also showed a significant increase ($p = 0.001$) from the start to the end of Gr 1. However, based on the combined score, passives as a whole have not yet been mastered by the end of Gr 1.

The assessment of binding relations in isiXhosa was only possible for comprehension. Binding comprehension had not yet been mastered by the end of Gr 1, and despite the fact that there was an increase in scores, this increase was not statistically significant. The comprehension of binding relations thus showed little development and no mastery by the end of Gr 1.

In terms of total scores, the highest score was for quantifiers followed by that for passives and then that for binding relations. When considering total scores, only passives showed a statistically significant increase, and quantifiers were the only LDC which had been mastered by the end of Gr 1.

9.2.4 Answer to research question 1

Recall that research question 1 was the following: How well do low SES learners with Afrikaans, English or isiXhosa, respectively, as LOLT perform at the beginning of Gr 1 and at the end of Gr 1 on tasks measuring the comprehension and production of selected LDCs? Specifically, which LDCs remain problematic for learners at the end of Gr 1? When considering Table 9.2 below, one sees that, based on the combined scores for comprehension and production, significant development took place in terms of articles, binding relations and passives in the Afrikaans group, all four assessed LDCs in the English group, and quantifiers in the isiXhosa group, but that the only LDCs that had been mastered by the end of the Gr 1 year were quantifiers and only by the isiXhosa group. Whereas significant development in terms of LDCs thus does take place to some extent in all three language groups, LDCs remain largely problematic for the learners at the end of Gr 1.

Table 9.2. Summary of significant change over the course of the Gr 1 year and the mastery of the LDCs by the end of Gr1 for all three language groups

Construction type		Afrikaans		English		isiXhosa	
		Significant change over course of Gr 1 year?	Mastered by end of Gr 1?	Significant change over course of Gr 1 year?	Mastered by end of Gr 1?	Significant change over course of Gr 1 year?	Mastered by end of Gr 1?
Articles	Comp	No	No	Yes	No	n/a	n/a
	Prod	No	No	No	No	n/a	n/a
	Total	Yes	No	Yes	No	n/a	n/a
Quantifiers	Comp	No	No	Yes	No	No	No
	Prod	No	No	Yes	No	No	Yes
	Total	No	No	Yes	No	No	Yes
Binding relations	Comp	Yes	No	Yes	No	No	No
	Prod	No	No	Yes	No	n/a	n/a
	Total	Yes	No	Yes	No	n/a	n/a
Passives	Comp	Yes	No	No	No	Yes	No
	Prod	Yes	No	Yes*	No	Yes	Yes
	Total	Yes	No	Yes	No	Yes	No

*Whereas all other significant changes over the course of the Gr 1 year involved a significant increase in scores, passive production scores decreased significantly in the English LOLT group.

9.3 Comparing English LOLT and isiXhosa LOLT results

As stated in section 5.8 it is tempting to compare all three language groups, but the basis for such a comparison would not be clear. In this section, only the two isiXhosa L1 groups (i.e., the isiXhosa LOLT and the English LOLT groups), each assessed in their LOLT, are compared in order to answer research question 2. The table below provides an overall summary of the three LDCs on which the English and the isiXhosa LOLT groups can be compared. The table contains mean percentage correct responses and p-values (Mann-Whitney U test with/without continuity correction) by phase.

Table 9.3. Summary of quantifiers and passives total scores and binding relations comprehension total scores for the English- and isiXhosa LOLT groups in Phase 1 and Phase 2

Construction type		Phase 1		Phase 2	
		English	isiXhosa	English	isiXhosa
Quantifiers	Total score	40	79	52	64
	p-value	0.0000		0.0000	
Passives	Total score	46	70	42	89
	p-value	0.0002		0.0000	
Binding	Comprehension score	40	69	52	74
	p-value	0.0000		0.0000	

From the table above and the graph below, it is clear that there are statistically significant differences between the scores obtained for each of the LDCs by the English LOLT and isiXhosa LOLT groups in Phase 1. Those learners who receive their schooling in their second or third language (i.e., an additional language) thus significantly lag behind those who receive their education in their L1, in terms of the comprehension and production of quantifiers and passives as well as the comprehension of binding relations at the start of their Gr 1 year.

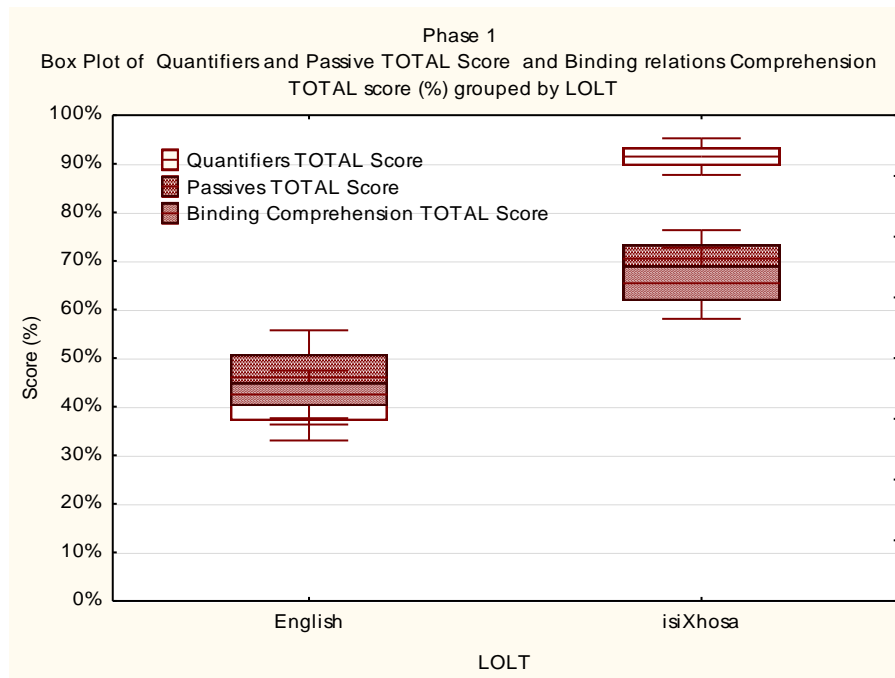


Figure 9.4. Summary of quantifiers and passives total scores and binding relations comprehension total scores according to the English- and isiXhosa LOLT for Phase 1

At the end of the year, the English LOLT group still lagged behind the isiXhosa LOLT group but slightly less so (although the differences between the groups were still statistically significant for all measures). Some language development thus does occur in the L2 during Gr 1 for those children receiving their schooling in their L2, but despite the increase in their scores, these scores are still significantly lower in their L2 than their isiXhosa LOLT peers' in their L1. The differences between the groups at the end of Gr 1 are represented in the figure below.

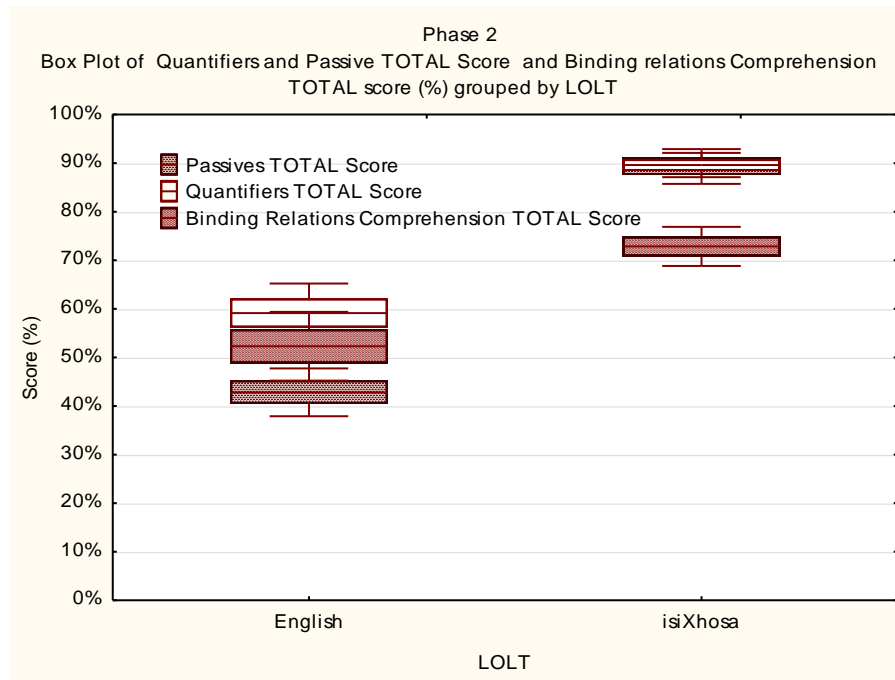


Figure 9.5. Summary of quantifiers and passives total scores and binding relations comprehension scores for the English- and isiXhosa LOLT groups for Phase 2

Research question 2 asked whether the English LOLT and isiXhosa LOLT learners differed in how they fared on LDCs at the start and the end of Gr 1 and, if so, how they differed. The answer to this question is that the English LOLT group with predominantly isiXhosa as L1 consistently achieved lower scores on all LDCs than did the isiXhosa LOLT group who also had isiXhosa as L1. Whereas the isiXhosa LOLT group had mastered quantifier and passive production by the end of Gr 1, the English group failed to obtain 90% correct scores on any of the assessed aspects.

The question arises as to whether the members of the English group in the current study (i) are on such a level in terms of their L2 language proficiency at the start and the end of Gr 1 that they can, without disadvantage, undergo schooling successfully, and (ii) whether that which is expected of Gr 1 learners with their L1 as LOLT can be expected of these children who have their L2 as LOLT. In this regard, Jordaan (2011:200) found that additional language learners who are integrated with L1 language learners catch up with these L1 language learners by Gr 2 and 3. She also states that while those additional language learners who are not integrated with L1 peers do make significant progress on most of the language skills by the end of Gr 3, they do not reach the same level as additional language learners who are integrated into the L1 learning context. The learners in the English LOLT group of the current study find

themselves in the last situation described by Jordaan (2011): They are mostly additional language learners of English who have English as LOLT and who receive very little input in terms of L1 English, because their main (or only) source of input is their teachers who are not L1 speakers of English. Despite the fact that these learners are supposed to be taught in English only (as per the language policy of the school), their teacher is “forced” to code switch in class (between English and isiXhosa or between English and Afrikaans, depending on the overall linguistic profile of the class) due to the learners’ low level of English comprehension and production skills evident at the start and still at the end of Gr 1 (personal communication with the teachers). The language policy is thus not always followed in practice, as it is not practical (or even possible) in all teaching contexts.

9.4 Implications, strengths, and weaknesses of the study and recommendations for further research

Section 9.2 provided a summary of the results of this study and indicated how the LDCs differ at the start and the end of Gr 1 for the Afrikaans, English, and isiXhosa groups, whereas section 9.3 provided a comparison of how the comprehension and production of LDCs differ between learners who receive their education in their L1 and those who do so in their L2 or L3. This section discusses the implications of these results for (i) the study of child language, and (ii) language in education policy and practices in South African schools in terms of SES and LOLT.

9.4.1 Norms regarding age of acquisition of certain language structures

In terms of language acquisition, the findings provide new insights into when (comparatively earlier or later) specific language constructions are acquired by children, particularly by children from a low SES background who consequently might not receive adequate input at home in terms of these language constructions. The findings also support the notion that child language acquisition has not been completed by the age of 5 years, thus challenging certain current assumptions about language acquisition and developmental norms: Despite the fact that children can generally construct most sentence types and decode complex semantic relationships in their L1 when entering school, their language continues to develop in significant manners during at least their first years of school.

When comparing the scores of the low SES learners with those obtained by the higher SES learners assessed by Southwood and Van Dulm (2012b) (discussed in section 3 of chapters 5 to 8), it is clear that the age of acquisition is later for the low SES Afrikaans and isiXhosa L1 speakers who receive their schooling in their L1 and even more so for the low SES English L2 or English Additional Language speakers who receive their schooling in English. Children who are situated in low SES circumstances are generally impoverished in terms of their language development (see section 2.7.1), and the language development norms applicable to middle or high SES communities cannot necessarily be applied to low SES communities. Note that the learners in the current study were all in mainstream schools and were typically developing in terms of community norms as reported by their classroom teachers. An implication of the discrepancy between how community representatives (in the form of teachers) judge the children's language skills and the results of the language assessment performed in this study is that the expectations and standards of different communities differ and cannot always be equated with the expectations and standards on a national level. Given the discrepancy referred to above, it appears that parents do not necessarily distinguish between the level of language proficiency needed for interpersonal communication in informal contexts and that needed in school and other more formal contexts in which metalinguistic and more advanced cognitive skills are presupposed. I refer here particularly to the parents of the L1 isiXhosa-speaking children who enrolled them in an English-medium school without the children possessing any basic communicative skills in English. This study indicated the effect that such a practice has on the children's comprehension and production of their LOLT over the course of one school year.

As stated above, this study rendered (limited) normative data on the acquisition of certain language constructions, and in this manner contributed to the still small pool of normative data on the language acquisition of older children. The following ages are applicable to articles, binding relations, quantifiers and passive constructions for the three language groups in low SES communities.

Table 9.4. Summary of LDCs according to the Afrikaans- English- and isiXhosa LOLT groups for comprehension and production sets

Construction type		Afrikaans	English	isiXhosa
Articles	Comprehension	after end of Gr 1 (6;9-8;3)	after end of Gr 1 (6;9-8;2)	n/a
	Production			
Quantifiers	Comprehension*	after end of Gr 1 (6;9-8;3)	after end of Gr 1 (6;9-8;2)	after end of Gr 1 (6;10-9;7)
	Production	after end of Gr 1 (6;9-8;3)	after end of Gr 1 (6;9-8;2)	start of Gr 1 (6;1-8;11)
Binding relations	Comprehension	after end of Gr 1 (6;9-8;3)	after end of Gr 1 (6;9-8;2)	after end of Gr 1 (6;10-9;7)
	Production			n/a
Passive constructions	Comprehension	after end of Gr 1 (6;9-8;3)	after end of Gr 1 (6;9-8;2)	end of Gr 1 and later (6;10-9;7)**
	Production			

*Note that for the Afrikaans group, the quantifier *all* was mastered by the end of Gr 1, whereas for the isiXhosa group *no/none* and *any* were mastered at the start of Gr 1 already and *all* by the end of Gr 1. Because all the quantifiers were not acquired for each language, quantifiers as a whole are regarded as not mastered at the end of Gr 1.

**In the case of the isiXhosa group, only reversible passive comprehension and the reversible psychological passive were not mastered by the end of Gr 1.

The current study provided (limited) developmental norms for (i) low SES learners for Afrikaans and isiXhosa in terms of L1 language acquisition and (ii) low SES learners of English in terms of additional language acquisition, which is a strength of the study. It should be born in mind that scores are reported in this chapter and in many other places in the dissertation as group averages. There are, however, learners who fared much better or worse than the group average: When looking at the maximum and minimum scores obtained for each of the four constructions, there were learners who did provide 100% correct responses to the stimuli, but there were also learners on the lowest end of the scale who provided no correct responses. The results indicate not only what is normal in the three groups concerned but also the heterogeneous nature of the language skills of this group.

9.4.2 Language-in-education policy and practice

The results of this study have several implications for educational practice. Meirim, Jordaan, Kallenbach and Rijhmal (2010) state (i) that language competence is central to educational success, because literacy is inherently a language-based practice (see also Bashir, Conte &

Heerde 1998; Hoff 2005; Owens 2008; Westby 1994), and (ii) that the language-in-education practice in South Africa is still highly controversial as home language and bilingual instruction policies have not been implemented in many schools. These issues are especially concerning when considering the difference between the English LOLT group and the isiXhosa LOLT in the current study, particularly when bearing in mind their SES. Jordaan (2011:196) ascribed such as difference in her study to the complex and dynamic nature of language acquisition and a number of important factors referred to in chapter 2 (such as input at school and at home), which will be discussed again below.

In terms of how the results can affect language-in-education practices and policies, it firstly appears that the burden falls on the teacher of the English LOLT group to provide language teaching and to improve the learners' language (as referred to in section 1.3). While literacy is inherently a language-based activity which is rooted in well-developed oral language skills (Linam-Thompson & Ortiz 2009; Scarborough 2001b; Snow, Tabors & Dickenson 2001), literacy and language proficiency involve more than being able to communicate in everyday conversational contexts. It also involves language use specifically related to academic activities. Because this latter proficiency is not acquired as naturally as one's basic communicative skills, and its development depends on exposure to formal educational settings (Cummins 2000; Hoff 2005), teachers should facilitate this later development more by introducing explicit teaching strategies which address the language implicit in the various learning areas (Meirim et al. 2010:43). However, teachers are not necessarily equipped and trained to help their learners in this manner. In this regard, Meirim et al. (2010), Mroz (2006), O'Connor and Geiger (2009) and Uys, Van der Walt, Van den Berg and Botha (2007) all suggest that teachers in South Africa are, firstly, not always aware of their responsibility to meet the language-related needs of their learners and, secondly, lack the methodological skills needed to promote the effective learning of academic language due to the fact that the teachers have not received the necessary training.

According to Cummins (2000), learners who are learning through the medium of their additional language take about 2 years to acquire basic communicative skills in that language and between 4 and 9 years to acquire language skills specifically related to academic activities, depending on the type of instruction these learners receive (Meirim et al. 2010:43). Related to the time it takes learners whose LOLT is not their L1 to develop language skills specifically related to academic activities: In terms of the language-in-education and teaching

policy, the results of the current study show that **the time allocated to listening and producing language in Grade 1 is sufficient for L1 classrooms**, as the learners in the Afrikaans and isiXhosa LOLT groups show significant improvement over the course of the year. However, when looking at the scores of the mostly L1 isiXhosa group with English as LOLT, it is clear that these learners are still not at the level of the L1 isiXhosa group with isiXhosa as LOLT, neither is the low SES Afrikaans LOLT group at the level of the middle-class children tested by Southwood and van Dulm (2012b). This latter comparison (inter-SES group) cannot be made for the isiXhosa group as there are no developmental norms available for L1 isiXhosa learners with higher SES. Southwood and Van Dulm's participants were all schooled through medium of their L1, so there are no data available from English additional language learners with higher SES with which to compare the English group in the current study. It does appear though that **the time allocated to establishing English language skills is not currently sufficient for English additional language learners.**

One goal of the education system is to help each child achieve their full potential. In light of this goal, it is also desirable that all children exit Gr 1 with the same basic skills set. The issue of quality in education (outlined by Meirim et al. 2010) pertains to “the all pervasive and extremely powerful influence of language which is unambiguously implicated in learning [...] and the need for pupils to have as good a grasp of the language of teaching and learning as possible” (Taylor, Muller & Vinjevold 2003:65). It is clear from the results in the current study that this is not the case. Low SES learners are behind compared to middle-class learners in terms of language skills both at the start and at the end of Gr 1, and low SES English additional language learners are behind compared to those low SES learners who are educated through medium of their L1. Despite the fact that the learners make significant progress over the course of their Gr 1 year, the language skills of English additional language learners are still delayed when compared to children whose LOLT is also their L1, and the low SES children are still behind their middle-class peers at the end of the year. The implication of this is, firstly, that **the current curriculum should be adjusted to cater for the needs of all Gr 1 learners, bearing in mind that learners enter Gr 1 with different levels of preparation** (also see discussion on preschool experiences below): some have attended Gr R (and preschool educational institutions); for others, the first day in Gr 1 is the first day of attending any educational institution. It might be necessary to have different streams in Gr 1 instead of working on the assumption that all learners enter Gr 1 equally ready to learn. Secondly, **teachers should be trained and provided with tools as to how additional language**

learners can be guided in order to improve their language skills. As stated by Jordaan (2011:200), some language skills (such as passive comprehension and the use of articles) can be taught explicitly. The results of the current study concur with the conclusions of Jordaan: The current study indicated that binding relations and quantifiers (in addition to passive comprehension and article use mentioned by Jordaan 2011) are also constructions which should be taught more explicitly, especially to children who are situated in low SES environments (and particularly to low SES additional language learners). It is important that language comprehension and production scores are improved upon at least by the end of Gr 3, as these language skills form the foundation on which increasingly complex language skills, which are expected to be mastered and used in the higher grades, are based. Webb, Lafon, Pare (2010:276) in Jordaan (2011:200) state that even in the so-called “upper ex-model-C schools”, there is room for improvement where “reasonably adequate English is used” (sic.) This conclusion is highly valid in the case of low SES schools and for their learners due to the results summarised in section 9.2 and 9.3 above. Jordaan (2011:200) emphasises that

teaching and learning in English do not have a simple cause-effect relationship with literacy development. There are children in lower ex-model-C schools within the urban context, who demonstrate significant difficulties with academic language development in the foundation phase. It is not possible to attribute these difficulties only to learning English, since many of these children also come from lower socio economic environments, the effects of which can have serious consequences for learning, irrespective of the language of instruction.

It is thus up to the language-in-education policies and practices to reflect not only the learning of the English language but also the subject matter and cognitive skills which go along with the education of a learner in Gr 1. (Note that the same holds for learners from low SES backgrounds whose LOLT is also their L1, as children with low SES have been shown to enter school with low language levels). If the learner does not have the necessary language skills at school entry, s/he is not only impoverished in terms of language but also starts to fall behind in terms of the subject material being taught and the cognitive skills which should be developed, as the means with which to acquire these skills are not available.

Language skills and later academic success have been found to be heavily influenced by children’s preschool experiences, and specifically to be enhanced by pre-school experiences which include (i) a focus on reading comprehension, metalinguistic abilities and the ability to use language for analytic purposes, along with (ii) exposure to complex grammatical structures and different genres and modalities (Dickinson & Porche 2011:870). However,

relatively little is known at this stage about how the preschool curriculum prepares children for the early school years and how it affects language and literacy development (Dickinson & Porche 2011:870). The current study is directly related to this question, in that it aimed to determine to what extent children at the beginning of Gr 1 are ready for the language they will encounter in the Gr 1 classroom. The results summarised in section 9.2 and 9.3 indicate the L1 speakers to be relatively well prepared (based on the four constructions tested), despite the fact that these LDCs are not mastered at the start of Gr 1 (with the exception of the passive construction for the isiXhosa group). The English group have very low scores for all LDCs at the start of Gr 1 and thus do not seem to be ready for the challenges which lie ahead in their Gr 1 year. The low comprehension and production scores evident at the start of the year are however not necessarily attributable to the learner's pre-school experiences as no analyses of the curriculum of or classroom observations in daycare and Gr R were performed during the study. One can also not consider the information given on the language background questionnaires regarding attendance of Gr R reliable enough to use in correlation studies between preschool experience and language skills at school entry. The reason for this is that the information obtained from the language background questionnaires is inconclusive because some parents were either not able to complete the questionnaire due to a language barrier or because, in some cases, the questionnaire was not returned. It is also clear from Tables E.4 to E.5 (see section 4.5 and Appendix E) that the learners in the English LOLT group who did attend Gr R did so in a language other than English. It is also important to note that while Gr R forms part of the CAPS, it is not subsidised by the state and it is thus not mandatory for learners to attend Gr R. The results of the current study indicate that **the institution of a universal Gr R year which is free to those children whose parents cannot afford to pay school fees is a matter of urgency**, as this will assist children in obtaining some of the languages skills necessary for literacy acquisition and academic success while they are still pre-Gr 1.

As stated in Chapter 2, individual child factors and contextual variables play a role in the acquisition of language by the child. The burden of enhancing children's language skills should thus not fall on the school only but also on the home. The quality and quantity of the input the child receives at home should complement that received at school. This is however problematic in low SES communities as the parents work long hours to sustain their families and are thus less available for interaction with their children (a situation exacerbated in the case of single parents), it is often grandparents who are taking care of the children together with many other children, and parents often have only a minimal education themselves or are

illiterate. In many cases, older siblings instead of adults take care of the younger siblings, resulting in varied language input. In many cases, as in the case of the Afrikaans group who speak Kaaps at home but who are expected to learn through medium of standard Afrikaans at school, there is a disparity between language at home and language at school. This is even more so the case for the English group, where this group is being taught in English at school, while their parents speak no or limited English and speak isiXhosa and/or Afrikaans at home. Of the three groups, the isiXhosa group has the best advantage in terms of language input as they receive input in their L1 in both the home and school environment. This “dual input” could be the reason why the isiXhosa group consistently had high scores (compared to the other two groups) on all LDCs assessed in this study. Considering that English is the perceived and, in most cases, real vehicle to educational empowerment, parents believe that sending their children to English-medium schools best prepares their children for the demands of a multilingual society (see Gules 2005; Kgosana 2006). However, in the case of the English group, this might not be entirely true as the child’s English language skills may improve at the expense of their isiXhosa L1 skills. If this is the case, their L1 and L2 language skills together will not necessarily equate to the academic language skills of their peers who are not necessarily bilingual but have good BICS and CALP in one language. In this regard, it appears that the current language learning and teaching practices are inadequate when concerning additional language learners in a multilingual educational context. Despite the good intentions outlined in the language-in-education policy to stress the comprehension and production of language skills as well as the development of multilingual language speakers by including time in the CAPS for additional language learning, the system will, without **adequate attention to language skills specifically related to academic activities**, likely perpetuate the historical inequalities still present in South Africa rather than systematically improve and provide empowerment. This especially pertains to the low SES communities in which there is a strong belief that English language skills will provide the desired upward social mobility. The insufficient resources available to give effect to home language or bilingual instruction, which could also serve as a way to begin amending the current situation in multilingual classrooms (see Alexander 2010; Beukes 2008; Carstens 2006; Kamwendo 2006; Meirim et al. 2010), may also perpetuate the current and critical problems associated with the low levels of literacy in South Africa (Howie 2009; Kgosana 2010; Meirim et al 2010; Tyobeka 2006).

9.5 Limitations of the current study and suggested avenues for further research

Several methodological issues were discussed in section 4.7. Some of these were concerns and others were limitations of the present study. One limitation not yet discussed relates to the assessment instrument used. Given the lack of linguistically and contextually appropriate instruments for the assessment of language acquisition and development in the multilingual and multicultural communities of South Africa, the REALt was deemed the best assessment instrument to be used in the current study (see section 4.6, footnote 51 relating to how the REALt was created keeping these aspects in mind). In terms of Afrikaans and English, the REALt was indeed a good choice. Throughout the testing phases, no problems were experienced with these two language versions. The isiXhosa version of the REALt is based on the English version. Throughout the analyses of the collected data, it became clear that the translations in the case of binding relations, specifically the production set and the equivalent of the passive *daar*-construction, still need to be refined and that other elicitation tasks need to be created for the isiXhosa version. This is due to the fact that the linguistic stimuli in both these instances already contain the response which should be provided by the participants. Due to the fact that the participants can merely repeat the stimulus in their response, it cannot be established whether the participant can actually produce the stimulus or is merely providing an imitation. Due to the abovementioned problems, these specific subsets were not analysed in this dissertation. Also, the isiXhosa translation only made use of the collective meaning and scope of the quantifier *every* whereas the English and Afrikaans versions included the distributive meaning and scope. Furthermore, the Afrikaans and English versions of the REALt were piloted and changes were subsequently made to them. As regards the isiXhosa version, however, this was not piloted by the developers before it was used in the current study. The fact that the assessment instrument used in this study has limitations is a limitation of the current study. However, despite the fact that the isiXhosa version of the REALt is still problematic in certain regards as pertains to the assessment of isiXhosa, it did provide a means to mostly effectively capture data in isiXhosa in a culturally unbiased manner, which I would not have been able to do without the use of the isiXhosa version of the REALt.

Despite the fact that the current study provides valuable data in terms of the age and order of acquisition of language structures by learners with low SES, further research should be done in order to ascertain how these learners progress in their language and literacy development. It

would be ideal to follow these children's language and academic development through Grades 2 and 3. Jordaan (2011:196) states that children learning in English as an L1 and children learning in English as an additional language show similar and different rates and profiles of acquisition depending on the language component in question. Based on the findings in the Jordaan (2011:199) study, as is the case in the present study, the additional language learners (i.e., the English LOLT group) tend to have lower language proficiency in Gr 1 than their L1 peers. However, Jordaan (2011:199) found that by Gr 2 and 3, these learners have caught up on most language skills (also see Alborough 2007). Note that the learners in Jordaan's study came from a mixed socioeconomic background: Her study schools were situated in middle-class suburban areas and were attended by middle-class children but also by working-class and poor children (including inner-city and township children). Jordaan's study population is thus not directly comparable to the population of the current study. That said, given the encouraging results obtained at the end of Gr 3 in Jordaan's study, it is recommended that the participants of the current study are followed up in order to ascertain whether the improvements and leveling out of language skills seen in Jordaan's study are also applicable to exclusively low SES learners when they reach Gr 2 and 3. Despite the fact that the L2 English learners do not fare well compared to L1 peers, there is a slight positive movement (both in the current study and in that of Jordaan) in the results of the L2 learners which provides some hope for these learners (as outlined in section 9.3 above).

In addition, it would be interesting to compare the scores of middle-class learners on the Annual National Assessment to that of the lower class learners to see if the poverty-situated children are more impoverished in terms of language than those with a higher SES on a measure other than the REALt.

Despite the fact that a language background questionnaire was provided to the parents to fill in in the current study, this questionnaire did not include questions on the amount and quality of language input the child receives at home and the nature of the input. This is a shortcoming of the study which could be addressed in further studies. Another shortcoming of the study is that the language background questionnaires that were given to the parents were not trilingual. Trilingual questionnaires would possibly have enabled parents to provide better feedback because they would have been able to do so in the language in which they are most comfortable.

The current study did not make use of classroom observations, teacher interviews or an analysis of the CAPS. By including such observations and analyses in future studies, (i) it can be ascertained whether the input that children receive at home and at school indeed contains the LDCs examined in this study, and (ii) the language learning of the learners can be correlated with the teaching practices and policies as well as the classroom input. This is a shortcoming of the current study which could be addressed in future studies. It would also be valuable to do interviews with the teachers who are teaching these groups as their own ideologies and beliefs about the children's abilities and their own goals for the learners could influence their teaching methods and ideologies surrounding the education of these learners.

9.6 Conclusion

This study showed that there is great variation in the language skills with which children enter their Gr 1 year, and that many LDCs have not yet been mastered by the end of Gr 1, possibly placing the learners at risk for academic failure. Based on their language scores, the English group seemed most at risk, as they still had low levels of skill in their LOLT. This group however showed significant improvement in terms of LDCs across their first compulsory school year. Child language development is influenced by interactions between children and their social environment, where peers, siblings, parents and teachers are active participants in the construction of knowledge about language and how language is used in everyday life, be it in Gr 1 or later in life. As stated by Wolf (in Alidou, Boly, Brock-Utne, Dalio, Heugh & Wolf 2006:9), "language is not everything in education, but without language, everything in education is nothing". It is hoped that the results of the current study will highlight the situation of children from low SES communities and will encourage a reconsideration of the type of language development support that can be offered to these children at preschool level and during their first few years of formal schooling.

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APPENDIX A

Initial letter to Parents (English version)

Dear Parent or Guardian,

The beginning of the school year is always filled with anticipation and new opportunities for Grade 1 learners. Your child is herewith asked to participate in a research study conducted by Joanine Nel for a Doctorate in Linguistics, from the Department of General Linguistics at Stellenbosch University. The first research sessions will take place on the school grounds in the afternoons from 13:00 to 16:30 from 4 February 2013 till 15 February 2013. The second sessions will take place closer to the end of the third term and dates will be made available closer to the time. As the study forms part of a research project for degree-seeking purposes, the results will be published in the form of a dissertation and possibly later also in the form of articles in scientific journals but the results will be written up in such a manner that your child will not be identifiable to people who read the dissertation and/or articles.

The purpose of the study is to determine what language constructions Grade 1 Afrikaans-, English-, and isiXhosa-learners are capable of comprehending and producing at the start of Gr1 and also what progress learners make during their Grade 1 year in understanding and producing these constructions. The principal has given permission for the study to be done at the school.

If your child volunteers to participate in this study, we would ask your child to do the following things:

1. Spend two afternoons per research session, with other children under adult supervision, playing at the school, looking at child-friendly pictures, and doing a selection of tasks, namely picture selection, question asking and answering and sentence completion.
2. Sign a consent form to this effect.

Please note that your child's responses to the tasks will be recorded with a digital voice recorder for later verification. Children and parents will be debriefed when the research is completed. The researcher respects each family's right to decide whether or not to allow their child to participate in the study, and if your child volunteers to take part in this study, your child may withdraw at any time without consequences of any kind and without having to provide reasons for withdrawal. Your child may also refuse to answer any questions he does not want to answer and still remain in the study.

I hereby allow my child to participate in a research study conducted by Joanine Nel in the weekday afternoons from 13:00 to 16:30 on 4 February 2013 till 15 February 2013.

Name of child / learner: _____

Name of Parent/Guardian: _____

Contact number: _____

Address: _____

Signature of Parent/Guardian (where applicable)

Date

APPENDIX B

Child consent form (English version)

	STELLENBOSCH UNIVERSITY	
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PARTICIPANT CONSENT FORM: MINOR



TITLE OF THE PROJECT:

The comprehension and production of later developing language constructions by Afrikaans-, English- and isiXhosa-speaking Grade 1 learners

RESEARCHERS NAME: Joanine Nel

What is RESEARCH?

Research is something we do to find new knowledge about the way things (and people) work. We use research projects or studies to help us find out more about topics to understand them better and to find possible solutions.

You are kindly invited to help with such research by playing with friends.

Are you willing to take part in it?

YES

NO

Signature of Child

Date

Signature of Parent/Guardian
(where applicable)

Date

APPENDIX C

Parental consent form (English Version)



UNIVERSITEIT • STELLENBOSCH • UNIVERSITY
jou kennisvennoot • your knowledge partner

STELLENBOSCH UNIVERSITY CONSENT TO PARTICIPATE IN RESEARCH

The comprehension and production of later developing language constructions by Afrikaans-, English- and isiXhosa-speaking Grade 1 learners.

Your child is asked to participate in a research study conducted by Joanine Nel for a Doctorate in Linguistics, from the Department of General Linguistics at Stellenbosch University. As the study forms part of a research project for degree-seeking purposes, the results will be published in the form of a dissertation and possibly later also in the form of articles in scientific journals.

1. PURPOSE OF THE STUDY

The purpose of the study is to determine what later developing language constructions (LDCs) Grade 1 (Gr1) Afrikaans-, English-, and isiXhosa-learners are capable of comprehending and producing at the start of Gr1 and also what progress learners make during their Gr1 year in understanding and producing these constructions.

2. PROCEDURES

If your child volunteers to participate in this study, we would ask your child to do the following things:

3. Spend two afternoons with other children under adult supervision playing at the aftercare, looking at child-friendly pictures, and doing a selection of tasks, namely picture selection, question asking and answering and sentence completion.
4. Sign a consent form to this effect.

Please note that your child's responses to the tasks will be recorded with a digital voice recorder for later verification. Children and parents will be debriefed when the research is completed.

5. POTENTIAL RISKS AND DISCOMFORTS

Participation in the study will not bring about risks or cause discomfort to the child.

6. POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY

The participants will not benefit personally by taking part in the research.

7. PAYMENT FOR PARTICIPATION

Participants will receive a gift voucher for participation in the study (in order to cover potential travel expenses) and refreshments will be provided during the research sessions.

8. CONFIDENTIALITY

No names of any participants will be mentioned in the thesis or subsequent other publications; participants will be given a participant number or pseudonym that will be utilised in the thesis for ease of reference, and only the researcher and her supervisors will be able to identify the participant. A possibility exist that the data obtained during the sessions may be used as examples in lectures or scholarly articles, as well as other research involving Receptive and Expressive Activities material; anonymity will however be ensured throughout.

The data will be stored in a locked cabinet in the researcher's office and electronic data will be stored in a password protected folder on the researcher's computer.

9. PARTICIPATION AND WITHDRAWAL

Participants can choose whether to take part in this study or not. If your child volunteers to take part in this study, your child may withdraw at any time without consequences of any kind and without providing reasons for withdrawal. Your child may also refuse to answer any questions he/she does not want to answer and still remain in the study.

10. IDENTIFICATION OF INVESTIGATORS

If you or your child has any questions or concerns about the research, please feel free to contact Joanine Nel (researcher), Dr Frenette Southwood (supervisor) or Dr Simone Conradie (co-supervisor).

Joanine Nel

Frenette Southwood

Simone Conradie

ninan@sun.ac.za

083 537 3511

fs@sun.ac.za

021 808 2010

sconra@sun.ac.za

021 808 2010

11. RIGHTS OF RESEARCH SUBJECTS

You may withdraw your consent at any time and discontinue participation without penalty. You are not waiving any legal claims, rights or remedies because of your participation in this research study. If you have questions regarding your rights as a research subject, contact Maléne Fouché (mfouche@sun.ac.za; 021 808 4622) at the Division for Research Development.

SIGNATURE OF RESEARCH SUBJECT OR LEGAL REPRESENTATIVE

The information above was described to me by Joanine Nel or by a research assistant in the preferred language (English/Afrikaans/isiXhosa); I am in command of this language, or this form was satisfactorily translated for me. I was given the opportunity to ask questions and these questions were answered to my satisfaction.

I hereby consent that my child may voluntarily participate in this study. I have been given a copy of this form.

Name of Parent/Guardian

Signature of Parent/Guardian (where applicable)

Date

SIGNATURE OF INVESTIGATOR

I declare that I explained the information given in this document to _____ [*name of the participant*] and/or [his/her] representative _____ [*name of the representative*]. [He/she] was encouraged and given ample time to ask me any questions. This conversation was conducted in [**Afrikaans/*English/*isiXhosa/*Other*] and [*no translator was used/this conversation was translated into _____ by _____*].

Signature of Investigator

APPENDIX D

Language background questionnaire for participants (English Version)

Dear Parent

Thank you again for allowing your child to participate in my study on later developing constructions. I would appreciate it very much if you could complete the form below either on hard copy or electronically and return it to me as soon as possible.

Thank you!

Kind Regards,

Joanine Nel (Department of General Linguistics, Stellenbosch University)

**ALL INFORMATION ON THIS QUESTIONNAIRE WILL REMAIN
CONFIDENTIAL. SHOULD YOU FIND ANY QUESTION INAPPROPRIATE OR
TOO PERSONAL TO ANSWER, PLEASE REFRAIN FROM ANSWERING SUCH
QUESTION**

PARENT

- Surname: _____
- First name: _____
- Street address: _____
- Telephone number: _____
- E-mail address (if available): _____
- Occupation: _____
- Education: Highest degree obtained:
 - Primary School
 - High School
 - University/College/Technicon degree/diploma/certificate

CHILD

- Surname: _____
 - First name: _____
 - Sex: Male Female
 - Date of birth: _____
_____ (dd/mm/year)
 - Place of birth: City _____ Country _____
 - How many siblings? _____
 - Gender and age of each sibling: _____
-

LANGUAGE USE

- Which language(s) have you as parents been using to communicate with your child from birth up until now?

- Has the child been exposed to other languages? If yes, please list the languages and also note for each of the languages where the child received the exposure from (primarily) and from what age he/she has been receiving exposure to the language.

Language:

Source of exposure:

From age:

1) _____

2) _____

3) _____

- Please list all daycares / crèches / schools that the child has attended / is attending. If your child attended / is attending a double- or parallel-medium school, please indicate in which stream (e.g. English or Afrikaans) they were / are.

Name of daycare/crèche/school: **Language(s) used** **From age:**
by teachers/caregivers:

- 1) _____
- 2) _____
- 3) _____

- What do you consider to be your child's first language / mother tongue? If your child has more than one first language / mother tongue, please list all of these languages

- Which other languages can the child understand but not speak? _____
- understand and speak? _____

- What is the first language of:
the child's mother or the female person who spend the most time with the child? _____

the child's father or the male person who spend the most time with the child? _____

- Which other languages do the child's parents/caregivers know / use?

Mother/female caregiver: _____

Father/male caregiver: _____

- Which languages does the child use

at home with parents/caregivers _____

at home with siblings _____

with friends _____

at school _____

with other family members (e.g. grandparents) (if applicable) _____

THANK YOU FOR YOUR TIME!

APPENDIX E

Participant information based on language background questionnaires per group

Afrikaans group:

Table E. 1. Summary of Afrikaans-speaking participants' age, gender and place of birth

Participant	Age on day of data collection commencement	Age in months	Gender m/f	Place of birth
A1	6 Years, 8 Months, 15 Days	80	F	Stellenbosch
A2	n.d.	n.d.	M	n.d.
A3	6 Years, 7 Months, 8 Days	79	M	Stellenbosch
A4	6 Years, 0 Months, 28 Days	72	F	Stellenbosch
A5	7 Years, 5 Months, 5 Days	89	M	Tygerberg
A6	6 Years, 2 Months, 25 Days	74	F	Stellenbosch
A7	n.d.	n.d.	F	n.d.
A8	6 Years, 9 Months, 3 Days	81	F	Stellenbosch
A9	6 Years, 3 Months, 4 Days	75	M	Stellenbosch
A10	n.d.	n.d.	F	n.d.
A11	n.d.	n.d.	F	n.d.
A12	6 Years, 4 Months, 13 Days	76	F	Stellenbosch
A13	6 Years, 5 Months, 22 Days	77	F	Stellenbosch
A14	6 Years, 2 Months, 11 Days	74	F	Stellenbosch
A15	7 Years, 6 Months, 28 Days	90	F	n.d.
A16	7 Years, 2 Months, 10 Days	86	F	Stellenbosch
A17	6 Years, 5 Months, 10 Days	77	F	Cape Town
A18	7 Years, 0 Months, 17 Days	84	M	Stellenbosch
A19	6 Years, 4 Months, 19 Days	76	F	Stellenbosch
A20	6 Years, 8 Months, 18 Days	80	M	Stellenbosch
A21	6 Years, 7 Months, 1 Days	79	M	Cape Town
A22	6 Years, 7 Months, 1 Days	79	F	Stellenbosch
A23	6 Years, 6 Months, 18 Days	78	F	Stellenbosch
A24	6 Years, 8 Months, 24 Days	80	M	Stellenbosch
A25	6 Years, 7 Months, 1 Days	79	M	Stellenbosch
A26	7 Years, 2 Months, 20 Days	86	F	Worcester
A27	6 Years, 9 Months, 7 Days	81	M	n.d.

Table E. 2. Summary of Afrikaans-speaking participants' language profiles according to language exposure

Participant	Languages used by parents from birth till currently	Exposure to other languages		
		Language(s)	Source of exposure	from age (in years)
A1	Afrikaans	n/a		
A2	n.d.			
A3	Afrikaans	n/a		
A4	Afrikaans	n/a		
A5	Afrikaans	n/a		
A6	Afrikaans	n/a		
A7	n.d.	n.d.		
A8	Afrikaans	n/a		
A9	Afrikaans	n/a		
A10	n.d.			
A11	n.d.			
A12	Afrikaans	English	Parents	since birth
A13	Afrikaans	English	Television	4
		isiXhosa	Grandparents	5
A14	Afrikaans	n/a		
A15	n.d.			
A16	Afrikaans	English	n.i.	n.i.
A17	Afrikaans	n/a		
A18	Afrikaans	n/a		
A19	Afrikaans	n/a		
A20	Afrikaans	n/a		
A21	Afrikaans	n/a		
A22	Afrikaans	n/a		
A23	Afrikaans	n/a		
A24	Afrikaans	n/a		
A25	Afrikaans	n/a		
A26	Afrikaans	n/a		
A27	Afrikaans	n/a		

Table E.3. Summary of Afrikaans-speaking participants' language and educational exposure

Participant	Dayc-are	Language used at school by teachers/caregivers	From age (in years)
A1	Kleuterskool	Afrikaans	5
A2		n.d.	
A3	Neethlingshof	Afrikaans	4 months
	Jakkerland	Afrikaans	5
A4	Brakenjan creche	Afrikaans	3
A5	Brakenjan creche	Afrikaans	5
A6	Sonstraal playschool	Afrikaans	3 to 4
	Weber Gedenk Primary	Afrikaans	5
A7		n.d.	
A8	Kleuterskool	Afrikaans	5
A9	Jakkerland	Afrikaans	3
A10		n.d.	
A11		n.d.	
A12	Sonstraal playgroup	n.i.	3
A13	Brankenjan creche	Afrikaans	1
	Weber Gedenk Primary	Afrikaans	5
A14	Brakenjan creche	Afrikaans	
A15		n.d.	
A16	Weber Gedenk Primary	Afrikaans	3 months
		English	2, 5
A17		n/a	
A18		n/a	
A19	Jakkerland	Afrikaans	3
	Weber Gedenk Grade R	Afrikaans	5
A20	Jakkerland	Afrikaans	5
A21	Kabouterland	n.i.	
A22		n.d.	
A23	Weber Gedenk Grade R and 1	Afrikaans	6
A24		n.d.	
A25	Graceland	n.i.	
	Weber Gedenk Primary	n.i.	
A26	Weber Gedenk Primary	Afrikaans	6
A27	Weber Gedenk Primary	Afrikaans	7

English group:*Table E. 4. Summary of English-speaking participants' age, gender and place of birth*

Participant	Age on day of data collection commencement	Age in months	Gender m/f	Place of birth
E1	6 Years, 0 Months, 25 Days	72	F	Stellenbosch
E2	6 Years, 2 Months, 20 Days	74	F	Cape Town
E3	6 Years, 8 Months, 19 Days	80	F	Western Cape
E4	6 Years, 8 Months, 20 Days	80	F	Eastern Cape
E5	n.d.	n.d.	F	Stellenbosch
E6	7 Years, 6 Months, 3 Days	90	M	Johannesburg
E7	6 Years, 7 Months, 6 Days	79	F	Cape Town
E8	6 Years, 1 Months, 17 Days	73	M	Stellenbosch
E9	n.d.	n.d.	M	n.d.
E10	n.d.	n.d.	M	n.d.
E11	6 Years, 10 Months, 8 Days	82	M	Stellenbosch
E12	6 Years, 8 Months, 23 Days	80	M	Stellenbosch
E13	6 Years, 8 Months, 26 Days	80	M	Stellenbosch
E14	n.d.	n.d.	M	n.d.
E15	n.d.	n.d.	F	n.d.
E16	6 Years, 8 Months, 30 Days	80	F	Stellenbosch
E17	6 Years, 2 Months, 22 Days	74	M	Cape Town
E18	n.d.	n.d.	F	n.d.
E19	6 Years, 1 Months, 29 Days	73	F	Stellenbosch
E20	6 Years, 9 Months, 11 Days	81	M	Stellenbosch
E21	6 Years, 4 Months, 7 Days	76	F	Cape Town
E22	6 Years, 6 Months, 28 Days	78	M	Johannesburg
E23	n.d.	n.d.	M	n.d.
E24	6 Years, 8 Months, 11 Days	80	F	St Barnabas , Eastern Cape
E25	6 Years, 10 Months, 25 Days	82	M	Stellenbosch
E26	6 Years, 5 Months, 30 Days	77	F	Stellenbosch
E27	n.d.	n.d.	F	n.d.
E28	6 Years, 8 Months, 12 Days	80	M	Stellenbosch
E29	6 Years, 5 Months, 20 Days	77	F	Stellenbosch
E30	n.d.	n.d.	F	n.d.
E31	6 Years, 4 Months, 18 Days	76	F	Khayelitsha

Table E. 5. Summary of English participants' language profiles according to language exposure

Participant	Languages used by parents from birth till currently	Exposure to other languages		
		Language(s)	Source of exposure	From age (in years)
E1	isiXhosa	isiXhosa	primarily	n.i.
		Afrikaans	pre-school	4
		English	primary school	5
E2	isiXhosa	n.i.		
E3	isiXhosa and English	English	speaking	6
E4	isiXhosa	n.i.		
E5	isiXhosa	English	school	5
E6	English	n.i.		
E7	isiXhosa and English	English	home and friends	2
		Afrikaans	friends	5
E8	isiXhosa	English	home and preschool	3
		Afrikaans	home and preschool	n.i.
E9	n.d.			
E10	n.d.			
E11	isiXhosa	n.i.		
E12	isiXhosa and English	n.i.		
E13	isiXhosa	n.i.		
E14	n.d.			
E15	n.d.			
E16	isiXhosa and English	Afrikaans	crèche	4
E18	n.d.			
E17	isiXhosa	English	at school	6
E19	isiXhosa & English	n.i.		
E20	isiXhosa	n.i.		
E21	isiXhosa	n.i.		
E22	isiZulu and isiXhosa	English	creche	n.i.
E23	n.d.			
E24	isiXhosa & English	n.i.		
E25	n.d.			
E26	isiXhosa and English	English	father	6
E27	n.d.			
E28	isiXhosa	n.i.		
E29	English, isiXhosa and Afrikaans	isiXhosa	creche	4
		Afrikaans	Primary grade R	5
		English	grade R and grade 1	6
E30	n.d.			
E31	isiXhosa	English	n.i.	
		isiXhosa	n.i.	

Table E. 6. Summary of English-speaking participants' language and educational exposure

Participant	Day-care	Language used at school by teachers/caregivers	From age (in years)
E1	Isibane Sempumelelo crèche	isiXhosa	3
	Jakkerland pre-primary	Afrikaans	4
	Grade R St Vincents	English	5
E2	Isibane Sempumelelo educare	isiXhosa	1 to 5
E3	Sizamile	isiXhosa	3
	Soyazama	isiXhosa	4
E4	n.i.		
E5	Sizanile	isiXhosa	2
E6	Wittebom day care (wynberg)	n.i.	1
E7	Sibongumusa crèche	isiXhosa and English	2
E8	Luthando creche Kayamandi	isiXhosa	3 to 4
	Akkerdoppies	English and Afrikaans	5 to 6
E9	n.d.		
E10	n.d.		
E11	Stellenbosch Islamic Kinders	English	3
E12	Svyazama	isiXhosa	n.i.
	Masifunole	isiXhosa	n.i.
E13	Sizamile crèche	isiXhosa	3
E14	n.d.		
E15	n.d.		
E16	Sporty bears	English	n.i.
	St raphel	Afrikaans	n.i.
E17	Nomzamo day care	isiXhosa	1 to 3
	Minkies educare centre	isiXhosa	4
E18	n.d.		
E19	Sibongumusa	isiXhosa	2 to 5
E20	Luthando daycare	isiXhosa and English	3
E21	Masonwabe crèche	n.i.	2 to 4
	Zenzele crech	n.i.	5
E22	Sizamile	English	n.i.
E23	n.d.		
E24	n.i.		
E25	n.d.		
E26	St Raphel pre-primary	Afrikaans	4
E27	n.d.		
E28	n.i.		
E29	Sizamile crèche	isiXhosa	3 to 4
	Lyndoch crèche	Afrikaans	4 to 5
	Rietenbosch Primary	English	5 to 6
E30	n.d.		
E31	n.i.		

isiXhosa group:*Table E. 7. Summary of isiXhosa-speaking participants' age, gender and place of birth*

Participant	Age on day of data collection commencement	Age in months	Gender m/f	Place of birth
X1	6 Years, 2 Months, 16 Days	74	M	Cofimvaba, Eastern Cape
X2	6 Years, 9 Months, 0 Days	81	F	Cape Town
X3	6 Years, 9 Months, 15 Days	81	F	Cape Town
X4	7 Years, 1 Months, 28 Days	85	M	Stellenbosch
X5	6 Years, 8 Months, 24 Days	80	M	n.d.
X6	6 Years, 9 Months, 15 Days	81	F	Stellenbosch
X7	8 Years, 11 Months, 9 Days	107	F	Stellenbosch
X8	6 Years, 2 Months, 12 Days	74	M	n.d.
X9	6 Years, 2 Months, 5 Days	74	M	Stellenbosch
X10	6 Years, 1 Months, 24 Days	73	F	Cape Town
X11	7 Years, 5 Months, 20 Days	89	F	Stellenbosch
X12	7 Years, 1 Months, 8 Days	85	F	Western Cape
X13	6 Years, 9 Months, 12 Days	81	M	n.d.
X14	6 Years, 3 Months, 11 Days	75	M	n.d.
X15	6 Years, 6 Months, 30 Days	78	M	Tygerberg
X16	6 Years, 1 Months, 23 Days	73	F	Stellenbosch
X17	6 Years, 6 Months, 4 Days	78	F	Stellenbosch
X18	7 Years, 0 Months, 23 Days	84	F	Cape Town
X19	6 Years, 6 Months, 1 Days	78	F	n.d.
X20	6 Years, 8 Months, 1 Days	80	F	Stellenbosch
X21	6 Years, 7 Months, 3 Days	79	M	Tygerberg
X22	6 Years, 7 Months, 17 Days	79	M	Stellenbosch
X23	6 Years, 5 Months, 3 Days	77	F	Stellenbosch
X24	7 Years, 6 Months, 6 Days	90	M	Stellenbosch
X25	6 Years, 1 Months, 18 Days	73	F	Stellenbosch
X26	6 Years, 10 Months, 1 Days	82	M	n.d.
X27	6 Years, 2 Months, 1 Days	74	M	Stellenbosch
X28	6 Years, 10 Months, 12 Days	82	M	n.d.
X29	6 Years, 9 Months, 14 Days	81	F	Stellenbosch
X30	6 Years, 6 Months, 24 Days	78	M	Stellenbosch
X31	6 Years, 10 Months, 5 Days	82	F	Stellenbosch
X32	6 Years, 2 Months, 3 Days	75	M	n.i.

Table E. 8. Summary of isiXhosa-speaking participants' language profiles according to language exposure

Participant	Languages used by parents from birth till currently	Exposure to other languages		
		Language(s)	Source of exposure	From age (in years)
X1	isiXhosa	n/a		
X2	isiXhosa	n/a		
X3	isiXhosa, Afrikaans	n/a		
X4	isiXhosa	n/a		
X5	n.d.			
X6	isiXhosa	English	Primary School	
X7	isiXhosa	n.i.		
X8	n.d.			
X9	isiXhosa	English	n.i.	3
		Afrikaans	n.i.	3
X10	isiXhosa	n/a		
X11	isiXhosa	n/a		
X12	isiXhosa	n/a		
X13	n.d.			
X14	isiXhosa	n/a		
X15	isiXhosa	n/a		
X16	isiXhosa	n/a		
X17	isiXhosa	n.i.		
X18	n.d.			
X19	n.i.			
X20	isiXhosa	English	Legacy of Kayamandi Community Centre	
X21	isiXhosa	English	Grade 1	6
X22	isiXhosa	n/a		
X23	isiXhosa	English	n.i.	5
X24	isiXhosa	n.i.	n.i.	3
X25	n.d.			
X26	isiXhosa	n.i.		
X27	n.d.			
X28	isiXhosa	English	n.i.	n.i.
X39	isiXhosa	n/a		
X30	isiXhosa	n/a		
X31	isiXhosa	n/a		

Table E. 9. Summary of IsiXhosa-speaking participants' language and educational exposure

Participant	Dayc-are	Language used at school by teachers/caregivers	From age (in years)
X1	n.i.	isiXhosa, English	n.i.
X2	Masonwabe creche	isiXhosa	2
X3	Creche	isiXhosa, English	n.i.
X4	n.i.	isiXhosa, English	n.i.
X5	n.d.		
X6	Gndzoiyana creche	n.i.	
	Siyaluya creche	n.i.	
X7	Ikaya Primary School	isiXhosa	n.i.
X8	n.d.		
X9	Sizamile	isiXhosa	n.i.
	Trust centre	isiXhosa, English	n.i.
	Siyazingca	isiXhosa, English	n.i.
X10	Ikaya Primary School	isiXhosa	6
X11	n/a		
X12	Masifunde creche	isiXhosa, English	2011
X13	n.d.		
X14	Sizamile creche	n.i.	
X15	Masifunde creche	n.i.	
X16	n/a		
X17	n/a		
X18	n.d.		
X19	n/a		
X20	LuThando creche	isiXhosa	n.i.
X21	Zenzele creche	isiXhosa	n.i.
	Sibane Sempumelelo	isiXhosa	n.i.
	Zenzele creche	n.i.	1.5
X22	Luthendo creche	isiXhosa	3
X23	Sizamile creche	isiXhosa	n.i.
X24	Trust centre	isiXhosa, English	n.i.
	Ikaya Primary	isiXhosa	5
X25	n.d.		
X26	n/a		
X27	n.d.		
X28	Kwiminyaka	n.i.	5
X29	Isibane Sempumalelo creche	isiXhosa, English	2 to 6
X30	Sizamile Educare Centre	English	1
X31	n/a		