

Chapter 1

Rationale and context for this study

Language about language...

Diversity, difference, dialects,

Disorders, disability, deviance,

Words, all words. To be trusted or distrusted? (Butler, 1983, p. vii)

1.1. The crucial importance of developing a research basis in languages other than English

An urgent need exists in the field of Speech Language Therapy to develop a cross-linguistic research basis. This is because a great deal of the world's population aspires to learn and speak English.

Speech Language Therapy is a scientific field that has conducted active research for the last approximately 60 years. However, most of this research has been conducted in English for Western middle class populations (Kathard, Naude, Pillay and Ross, 2007). It is actually only a minority amongst the Speech Language Therapy Community that conduct research. The majority of Speech Language Therapists provide therapy for the English-speaking population and do not conduct research.

Most of the world's population is not English-speaking. Neither are they Western or middle class. In fact the majority of these populations live in abject poverty (Soludo, 2001). It is, therefore, vital for Speech Language Therapists to change the focus of their research and begin to meet the urgent need of developing a research basis for all the world's language as well as for all the world's populations.

1.2. Dire need for developing a research basis for Speech Language Therapy in South Africa

South Africa is a country which typifies this dire lack of research. Most of the country's population lives in poverty. They do not have access to Speech Language Therapy services. The reason for this is that there are few Speech Language Therapists in South Africa for a population of 51 770 560 (South African National Census, 2011). The majority of these therapists work in private practice. Authors such as Kathard et al. (2007) call for the profession of Speech Language Therapy to transform and develop their practice, and to make research and practice relevant for the local population.

Pascoe (2011, p. 2) in her editorial in the South African Journal of Communication Disorders has called for the development of "contextually relevant resources." She defines these as tools such as assessments that are available for Speech Language Therapists "to use with a specific population in a specific setting, and that have been developed with that population and setting in mind."

K. Demuth (personal communication, October 26, 2009) describes the need for establishing a research base in South Africa in the following way:

As a researcher who has worked in Sotho-speaking children's language development for 28 years, I have been continually concerned by the lack of speech-language assessment tools available for ANY African language. This has been particularly surprising in Southern Africa, where the field of Speech, Language and Hearing research is alive and well, but almost entirely focused on English. Thus, there are almost no speakers of South Africa's 9 African languages who are trained as Speech Language Therapists, nor are there any assessment tools for use by those who are now beginning to be trained. There is therefore a critical need for the development of language assessment tools of all types.

Swanepoel (2007) suggests that in order to deal with the cultural and linguistic needs of previously disadvantaged South Africans, Speech Language Therapists need to use a holistic or eclectic research approach. Such an approach uses both quantitative and qualitative methods.

This kind of approach is aligned closely with my own thoughts at this time. I wrote a piece for the American Speech Hearing Association (ASHA) Leader in 2009 stating that in order to conduct research in South Africa, a researcher has to take an eclectic approach (Bortz, 2009). Historically, it was Charles van Riper (1905-1994), one of the founding fathers of the Speech Language Therapy profession, who recommended the importance of the eclectic approach (Van Riper and Emerick, 1990). This kind of approach promotes being open to using everything that is available in order to conduct the research. Therefore, eclecticism can be very useful in the repertoire of researchers to add to the research base for languages other than English.

Alant (2007) recommends “the notion of context free laboratory-type experiments and the understanding of phenomena entrenched within the social context of living” (p.12) when conducting research. Therefore, when developing a research base for non-English speakers, and for my dissertation, I will be focusing on the context of my subjects which are Early Childhood Developmental Centres [ECD]/Preschools. (Please see Section 1.15 which follows later in this chapter).

A much too often repeated lament in the South African Speech Language Therapy profession over the last four decades is the critical need for the development of language assessment tools in all the language spoken in the country (Ballentine, Ballentine and Morgan, 1976; Demuth, Moloi and Machobane, 2009, 2010 and Pascoe, 2011). Generally, language assessments are not based on the structure of the nine indigenous languages spoken in South Africa and they don’t take the cultural or environmental conditions into account (Bortz, 1995).

In addition, speakers of these indigenous languages are mostly under-served according to Penn, Frankel, Watermeyer and Muller (2009). This is because the majority of Speech Language Therapists usually can only provide therapy in English and or Afrikaans (Pascoe et al. 2010).

1.3. Existing research bases for the majority of the South African population

Fortunately, there have been Speech Language Therapist researchers who, despite all the challenges, have worked tirelessly for decades to contribute to the research base for the South Africa. Examples include Professor Claire Penn and Professor Heila Jordaan.

In my research career I have constructively tried to deal with this lament by engaging in community work field projects in rural areas such as Gazankulu (Bortz, Schoub and McKenzie, 1992). In addition I have trained students to try and meet the needs of the communicatively impaired population of South Africa (Bortz, Jardine and Tshule, 1996).

I have also investigated language acquisition in the form of an article entitled: The pragmatic abilities of 18 month old Zulu speakers (Bortz, 1992). In 1995 I devised a language assessment for preschool Zulu speaking children for my Masters' Thesis. One of the subtests of this assessment was a comprehension task for passives. In 1998 I continued to investigate the passive by conducting a study entitled "Acquisition of the passive by Sesotho/English and Zulu/English Bilingual children". The aim of this study was to investigate participants' receptive and expressive knowledge of the passive. Results indicated that children performed best in their home language and that the passive was not fully acquired by age 5 (please see Chapter 2 (2.7.3)).

1.4. The unique passive construction

The passive construction has been a source of fascination for many disciplines such as

Speech Language Therapy, and Linguistics since Chomsky's original research (Chomsky, 1957). It is probably one of the most studied of all language constructions (Deen, 2011). Much cross-linguistic research has been conducted on the passive (Slobin, 1992 [Ed.]).

The passive construction is a unique construction as the results of the research conducted on it have provided varied and diverse information. An example is in languages such as English and Sesotho. Bencini and Valian (2008) and Demuth et al. (2009, 2010) have found that the passive is acquired early. Yet other authors also conducting research in these languages have found that the passive is a late developing language construction (Armon et al. in press, Crawford, 2008, 2012). Crawford continues that "the passive construction poses an interesting learnability problem. The child must learn which types of passive are allowed in her language, and which verbs permit passivisation, with relatively few examples in the input" (2012, p. 4).

The passive is a very important construction to assess as it provides very useful information on children's language development. What is particularly useful is that it can provide information on both the child's home language as well as their second language. The passive construction has been a source of fascination for many disciplines such as Speech Language Therapy, and Linguistics since Chomsky's original research (Chomsky, 1957).

The passive has been found to be sensitive to various language impairments such as hearing impairment (Schmitt, 1969; Power and Quigley, 1973) and Specific Language Impairment [SLI] (van der Lely, 1996)¹. (Please see Chapter 3 for more details). It is, therefore, a very important construction for Speech Language Therapists and appears in many standardized

¹ The term SLI has been replaced by Language Learning Impairment recently. I will continue to use the term SLI in this study as both my research and the studies quoted were conducted when this term was still in use.

language assessments such as the Preschool Language Scales (Zimmerman, Steiner and Pond, 2011).

1.5.Rationale for the current study

My rationale for the current study is that the passive is an important and unique structure to examine as it will provide Speech Language Therapists with a tool to assess children in their first language. This is because if the passive is found to be acquired early in Setswana and if a child performs poorly on the passive assessment, then it will be an indication that the child has a language acquisition problem. Demuth (October 26, 2009) describes the rationale to study the passive in Setswana as a test that would be useful as a diagnostic of language delay in the Sotho Languages, facilitating early identification and intervention:

Given that South Africa's Bantu languages are closely related, tools that are developed in one language can be relatively easily adapted to another language. This is particularly true for grammatical constructions such as the passive in the very closely related languages, such as Tswana, Southern Sotho and Northern Sotho. The findings could then be easily applied to the Nguni languages Xhosa and Zulu.

Most children in South Africa are required to learn English. Therefore an assessment of the passive in Setswana and English will also be extremely useful to assess children's bilingual abilities with respect to the passive. As mentioned previously, if a child performs poorly on the passive in her/his first language this would indicate a language problem. However, if a child performs well on a Setswana assessment of the passive but poorly in English, the Speech Language Therapist would be able to utilise the child's knowledge with the passive in her/his first language to develop the passive in English.

1.6.The South African language context

South Africa is a multilingually rich country (van Rooy and Pienaar, 2006). It has 11 official

Languages (Statistics South African National Census, 2011 retrieved 13 November 2012) as can be seen in Figure 1.1 .

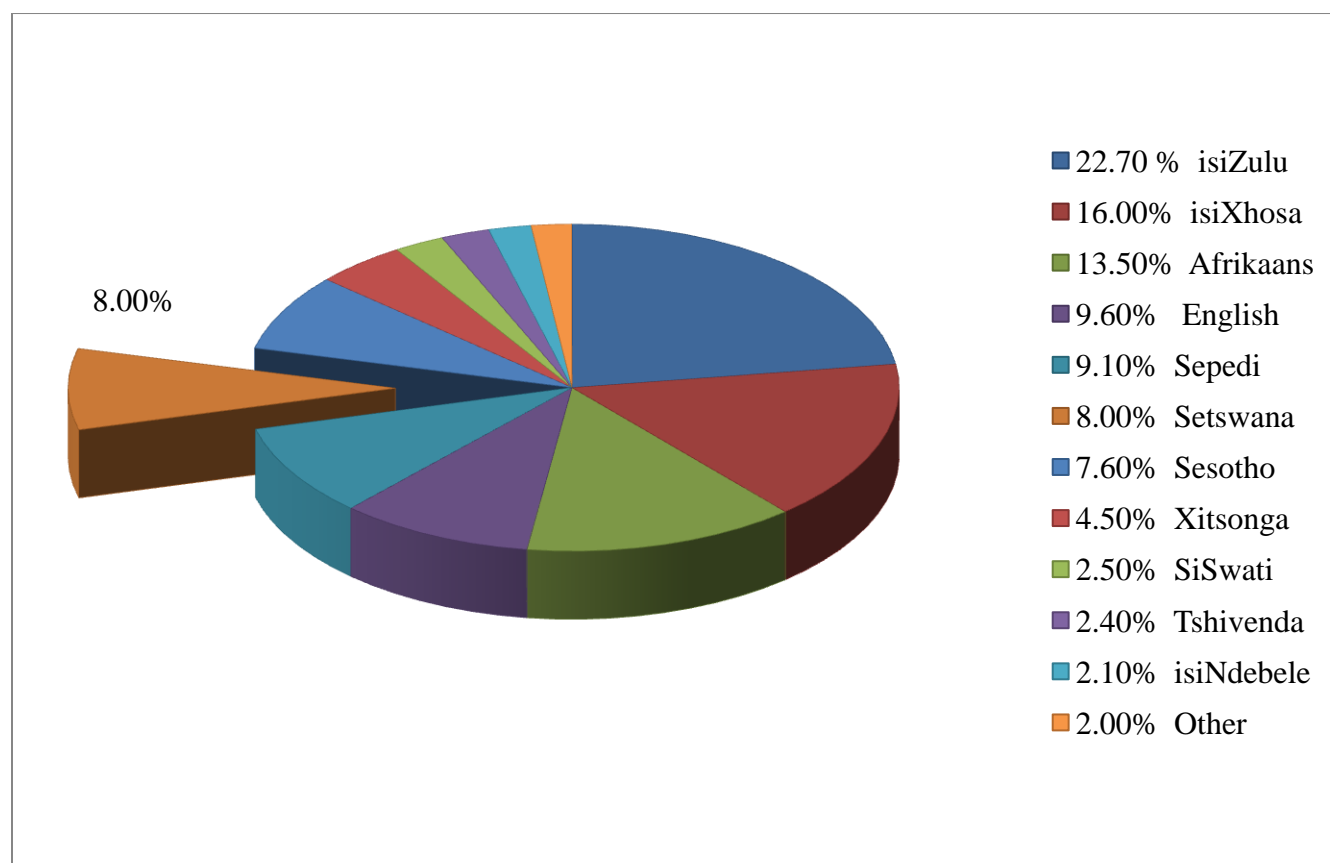
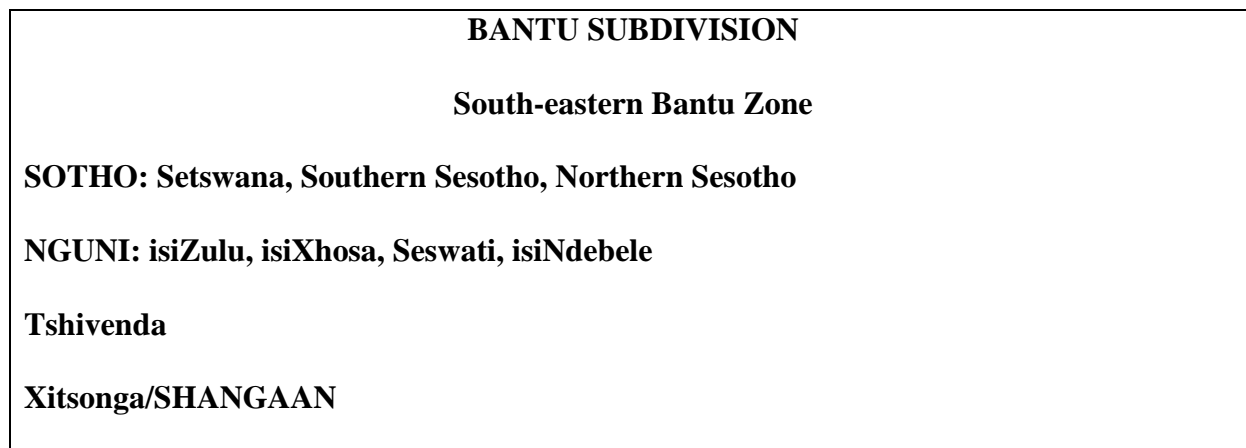


Figure 1.1 Languages spoken in South Africa (Statistics South Africa National Census, 2011)²

Nine of these languages are the South-eastern Bantu Zone Languages which appear in Figure 1.2. This figure also shows that Setswana belongs to the Sotho Group of languages.

² The literature on Zulu will still be referred to as its English form Zulu and not isiZulu. This is because the research was conducted prior to 1994 when isiZulu became one of the official languages of South Africa.

PHYLUM	Niger-Kordofanian
FAMILY	Benue-Kongo
SUBDIVISION	BANTU
(LANGUAGE)	SETSWANA



(Greenberg, 1963; Gregersen, 1977)

Figure 1.2 Classification of Setswana

1.7. Sociolinguistic variables

Monolingualism is a minority phenomenon in terms of the total world's population; bi or multilingualism is found in most countries in the world (Walker, 1984, p. 159).

The South African language context and Setswana cannot be described comprehensively without considering sociolinguistic variables. Reagan (1992) states that South Africa has a very complex and very complicated sociolinguistic reality. Part of this reality is the fact that many varieties of each language are spoken. These varieties include standard dialects and more colloquial forms of the language. Within multilingualism of a speech community code switching, borrowing and diglossia occurs (Otlogotswe, 2008).

It is a trend in Africa that the people who speak the standard variety and “protect and

preserve the purity and virility of the languages” tend to live in the rural areas (Agheysi, 1977, p. 109). Standard dialects represent forms of language that were spoken in previous decades and are slower in accepting innovations. Standard dialects are usually what children are exposed to in schools (Myers-Scotton, 1993).

According to Otlogetswe (2008, p. 23):

Multilingualism has influenced Setswana for many years and Setswana has historical contacts with Afrikaans and English have resulted with high levels of code switching and borrowing. For instance Cole (1955, p. 123) gives borrowing such as *keetane* and *galase* from *ketting* and *glas* (Afrikaans) and *buka* and *basekele* from *book* and *bicycle* (English).

1.8. Setswana

Setswana is the fourth most commonly indigenous spoken language in South Africa (Statistics South Africa, National Census, 2011³) as can be seen in Figure 1.1. It is spoken by approximately 9 million people in South Africa. Setswana speakers live predominantly in the Northwest, Northern Cape, Mpumalanga and Limpopo province of South Africa as well as in Namibia and Botswana as can be seen in the map in Appendix 1 A. 78.2% of the population of Botswana speak Setswana. This is approximately 1.1 million people <http://www.uiowa.edu/~africart/toc/countries/Botswana.html>. Retrieved 9/29/2012.

Otlogetswe (2008) explains that Setswana is the lingua franca of Botswana.⁴

Setswana is made up of various dialects such as Sekgatla and Kwenā. These dialects are referred to as the Eastern dialect cluster and are spoken mainly in Hammanskraal and Brits (http://www.unisa.ac.za/free_online_course/Setswana/Setswana.html. Retrieved 9/30/2012).

Pankop, where this study is conducted, is considered by some to be part of Hammanskraal.

³ The amount of Setswana first-language speakers has decreased from 8.2% to 8% of the South African population between the 2001 and 2011 national census.

⁴ Setswana and English are both official languages of Botswana.

1.9. Necessity for research base in Setswana

Setswana was the first language to be codified in South Africa. There is very little knowledge of the origin of the word Setswana according to Otlogetswe (2001). However, it may be derived from the word *chuana* 'alike' or 'equal' (Livingstone, 1857, p. 200 – 201). As described earlier in this chapter (1.1) there is a desperate need to devise a research basis in languages other than English. This dire need for research to be conducted in the South-eastern Bantu Zone languages exists because “linguistic inquiry is under pressure in South Africa. Such a situation is unexpected in a country where such a rich collection of languages are used, and ostensibly supported by a very enabling language policy” (van Rooy and Pienaar, 2006, p. 60). These authors conducted a review of linguistic scholarship in South Africa between 2000 and 2005. They found that only 3.5⁵ studies have been conducted in Setswana during this time (van Rooy and Pienaar, 2006). There are many reasons these authors cite for the lack of research being conducted, for example, problems within the university environment and lack of funding. Penn (2007) reiterates that a lack of research exists for these reasons.

I attempted to obtain updated information about more recent research conducted in South Africa and, therefore, contacted Professor van Rooy (19 December, 2011). His response was that:

I'm afraid not much has happened in recent years in SA that I am aware of. Setswana is also not the African language enjoying most research attention as far as I can tell. You should probably aim to combine available information on all the indigenous African languages for your literature review? But even there, I am not very aware of much ongoing research, haven't recently seen articles on funding applications of note ... (19 December, 2011).

This response shows that, at least for the past decade, there has been little progress in developing a research base for the 9 official South-eastern Bantu Zone languages. Many reasons

⁵ We used halves, but there it was split if one article dealt with more than one language (van Rooy, personal communication, July, 2012).

exist for this worrying situation such as lack of funding (Penn, 2007; van Rooy, 2011). Thus another reason that I am conducting this dissertation is to add to the knowledge base in Setswana.

1.10. Structure of Setswana

Setswana, like the other 8 South-eastern Zone Bantu languages is an agglutinating language, where suffixes and prefixes are used to alter meaning in sentence construction. Typologically, these languages are characterized by noun class systems, extensive agreement and a suffixal system of verbal derivatives (Doke⁶, 1990).

1.11. Setswana passive construction

The passive construction in Setswana is formed, like in other languages such as English, by the subject of the passive clause corresponding to a direct object in the corresponding active. The subject of the active clause is expressed in the passive with a *by*-phrase. The *by*-phrase “takes the form of an agentive adverb with the prefixal formative *ké-*” (Cole, 1955, p.192). The verb is then marked as passive with a passive extension by suffixing *-w* or *-iw-* instead of the final vowel *-a* (Cole, 1955, Kruger and Pretorius, 2006), for example, *ngwana wa mosetsana o a gakilwe (ke ntatemogolo)* ‘the baby girl is being hugged (by the grandfather).’ A more detailed description of the passive can be seen in Chapter 2, Section 2.2.

1.12. Use and acquisition of the passive in Setswana

Cole (1982⁷, p. 195) states that “passive verbs are used much more commonly in Tswana than in English”. This finding has been replicated in other South-eastern Bantu Zone languages which are mutually intelligible with Sesotho as can be seen in Figure 1.1. Demuth (1989),

⁶ Doke (1990) is the 6th Edition, Twelfth Impression of this book, which was originally published in 1927.

⁷ This is the date of the 4th impression of Cole’s publication of “An introduction to Tswana grammar” which was originally published in 1955. In the preface to the second impression (1975) Cole (1982, p vii) stated that “although some new trends are observable, the Tswana language itself has not changed significantly during these twenty years, so the linguistic facts presented in this work remain essentially valid.” There is no preface to the fourth impression.

Demuth et al. 2009, 2010). Suzman (1985, 1987, 1991) also found the passive to be used frequently in Zulu. Frequency of the passive in a language affects input and therefore early acquisition of the structure. (This issue is discussed in more detail in Chapter 2 Section 2.9)

However, Crawford (2008, 2012) found that Sesotho-speaking children did not acquire the passive early. This late development of the passive has been found frequently in English (Brown 1973, Hirsh and Wexler, 2006) and other Indo-European languages such as German (Mills, 1985) and Hebrew (Berman, 1985).

The reader can see that the frequency of input and age of acquisition of the passive is a controversial one. These factors will be discussed in more detail in Chapter 2 and throughout the study.

1.13. The importance of language for development

Language is a fundamental competency required by children in order to communicate with others. Language has a cognitive function, stores and transmits culture, enables people to attain their needs in an efficient and expeditious manner and provides a mechanism by which people enter and maintain membership in society. It also plays a significant role in the development of emotional maturity and appropriate social behavior (Marge, 1972; Rice, 1980).

Due to the fact that language is so integral in human functioning it is essential that language disorders are identified and treated as early as possible in a child's life. Early identification prevents the more serious and long term repercussions of language delay such as problems with education, social or vocational opportunities (Aram and Nation, 1980; Wetherby, Yonclas and Bryan, 1989. Prevention of language disorders is defined as the "elimination of factors which interfere with the normal acquisition and development of communication skills" (ASHA, 1982, p. 425).

The passive is a unique structure, arguably considered to be acquired early in South-eastern Bantu Zone languages. In addition it has been found to be sensitive to various language impairments such as SLI (see Chapter 3) which makes it an ideal construction to use in order to identify potential language disorders early.

1.14. How children develop language

The child is born into the world with no language at all. Through exposure to a speech community the child begins to speak at some time during the second year, and in five or six years can be said to know language quite well, if not completely (Cullicover, 1987, p.1)

Development of language occurs as a gradual yet changing process with children initially learning about the communicative aspects of interaction i.e. pragmatics and semantics, followed by syntax and morphology (Bernstein and Tiegerman, 2008; Slobin 1992)⁸. Receptive language is acquired initially. Thereafter, between age one and two, children begin to use expressive language and develop short, one and two word simple utterances. Thereafter, complex structures develop (Slobin, 1992). Children become capable of expressing ideas into sentences and their vocabulary increases at age two to three years. By four years of age, syntax is almost 'adult like'; and children then focus on learning discourse (Bernstein and Tiegerman, 2008).

1.15. Importance of developing language in Early Childhood Developmental Centres (ECDs)⁹

In the human life cycle the early childhood phase from birth to nine years is considered the most important phase for every human being. Giving children the best start in life means ensuring them good health, proper nutrition and early learning (Dr Z.S.T. Skweyiya, Minister of Social Development, Foreword, Guidelines for early childhood developmental services, May 2006).

⁸ DeVilliers 2012 questions this order of acquisition as being doubtful (personal communication October, 2012).

⁹ In South Africa these are also referred to as preschools or crèches

I am discussing the development of language in ECDs because the proposed participants of this study are in the process of developing their language (aged 2.5 – 5.5 years) and attend ECDs. In addition, ECDs provide an opportunity to describe the social context of language when conducting research in South Africa (Alant, 2007). One of the most effective ways of ensuring that children will be stimulated in order to develop their language in this way is to provide them with early childhood development in the form of ECDs/Pre-Schools or crèches.

Since the new South African political dispensation in 1994 ECD has been recognized and identified as a critical nodal point for the country's social and economic transformation and development. Government departments, together with non-government organizations, have forged partnerships at different stages of ECD development in the country to create policies and programmes that have enabled ECD services to improve. These services mainly refer to health, social and education needs. Currently ECD in this country boasts some of the best policies in the world. Our focus in delivering these policies has been towards ensuring that government resources are used maximally and efficiently to meet the needs of vulnerable and disadvantaged young children (D Hindle, Department of Education, Foreword, National Early Learning and Development Standards, 2009).

Much has been written about the importance and benefits of early childhood education. Children who attend preschools have been found to perform better at school. According to the High Scope study conducted in the USA adults in their thirties who attended preschools seldom failed a grade, required little remedial education and always finished school. (Scott, C, *Education in South Africa. Are Preschoolers getting their due? Inter Press Service*. <http://psnews.net/print.asp?idnews=25520> Retrieved January 11/2012).

1.16. Governance of preschool in South Africa

Early childhood development in South Africa is governed by the Children's Act of 2005. This is an act which was based on the Child Care Act 74 of 1983 (UNESCO International Bureau of Education, 2006). This act was amended by the Children's Amendment Act 41 of 2007 and enacted from April 2010 (Mahery, Jamieson and Scott, 2011). According to Mahery et

al (2011) one of the aims of this act is to promote well-being and prevent neglect of children “through the provision of a range of social services for children and families that include crèches and early childhood development programmes” (p.6).

ECD is defined in policy 0 – 9. However, it is a very divided sector according to S. Drew (personal communication, January 20, 2012). Preschool education is divided into 2 components i.e. Grade R for 5 year old children and Pre Grade R programmes for children between 0 and 4 years. The pre-grade programmes for children aged 0 to 4 years are governed by the Department of Social Development and in some cases, Department of Health “Guidelines for Daycare” (Department of Social Development (2001), Department of Education (2009). Attendance at these programmes is not compulsory.

It is important to consider Grade R as the oldest group of children in this study (4.6 – 5.5years) are in Grade R. At present Grade R, for children aged 5 or 6 is a very complex issue as government makes this a compulsory year of schooling before Grade 1 in public schools. However, some pre-schools also have Grade R programs (South African Institute of Distance Education (SAIDE) Grade R Research Dissemination, 2011).

Preschools are divided into two main categories. The first is financed by Government¹⁰ and the second and majority are being funded by parents’ fees, community fundraising or donation of materials (UNESCO IBE, 2006).

The Department of Social Development (2006) states that it “provides support to a total of 8429 registered ECD sites and subsidises 4612 sites. The Department of Social Development has a longstanding history in development of community ECD centres for children under the age of 5 years, especially in rural and under-serviced areas as well as the provision of support for

¹⁰ Government is comprised of National Departments of Social Services, Health, Education and Public Works and Provincial Departments of Education.

these” (p.24). However, “the majority of young children in South Africa do not have access to quality ECD services. The main reason for this is poverty.” (Department of Social Development, 2006).

1.17. Requirements of Preschool

Table 1.1 lists some of the requirements that practioners and preschools need to provide as required by the Department of Social Development Guidelines for Day-care (2001).

Table 1.1 Requirements for preschools

Requirements for practioners at preschools	
	The practioner needs to be patient – even towards the most difficult child or child with a specific need.
	Set up and manage a variety of active learning activities that are appropriate to the development needs of young children.
	Training of practioners is a prerequisite for running ECD programmes/services.
Requirements for programmes at preschools	Encouragement of language development. Language is a basic means of expressing emotion and of communication. It is important for the child to learn to use simple but correct words through conversation, singing, recitation, play acting.
	Group activities such as drawing, painting, singing, learning rhymes and listening to stories.
	Activities in the preschool should promote skills such as: <ul style="list-style-type: none"> • Language stimulation • Cognitive development • Motor development • Independent behavior • Co-operation • Thinking skills • Pre-math and reading skills • Scientific development • Artistic, music and drama skills. As regards Drama skills the Guidelines for Daycare stress that children learn by imitation. They like to recite, act in plays, and imitate grown-ups ... (p. 51).
Additional therapeutic support/special needs	Children who need therapeutic support are unconditionally provided with appropriate and effective services and/or programmes, and they and their families are assisted to make use of such programmes.
Building and equipment requirements	In areas where sewerage facilities are not available, sufficient potties must be available for children. A hand-washing facility for the children is required.
	There must be sufficient and adequate age appropriate indoor as well as outdoor play equipment such as toys, books and print material and other materials.
	Provision for fantasy games, a book corner, a nature table and a doll's corner. Culture-related activities should not be neglected.

1.18. Methods of pedagogy used at preschools

Prinsloo and Stein (2004) conducted an ethnographically based Children's Early Literacy Learning project. These researchers recommend that it is very important to investigate the sites of early literacy. The reason for this is that "teachers in each site invent their activities around literacy differently, despite following the same broad curriculum" (p. 68). Prinsloo and Stein (2004) collected data from preschools and a Grade 1 class around Cape Town as well as a semirural school on the borders of Johannesburg.

The site in the abovementioned research that is most relevant to the current dissertation was one that used "a common form of preschool pedagogy where the focus is on recitation-learning" (p. 70). In this preschool, as is common in many in South Africa, "teacher-led direct instructions... are characterized by collective rote-and-chant learning". In fact the "explicit pedagogy used in this preschool is "exclusively dedicated to chant learning and recitation" (p. 71).

Prinsloo and Stein (2004) state that chant and rote learning and drills, are beneficial when learning nursery rhymes or songs. When using chant learning, teachers provide few explanations of the meanings of words or to show the letters of the alphabet."

However, the disadvantage of this method is "when it is the dominant mode for learning (and prelearning) when it comes to reading and writing" (p. 72). The problem is that chant learning does not allow children to develop "meta-awareness of how sounds and letters combine to make particular signs", a skill vital for learning to read and write. Thus the main problem with this method is that children are "probably not being prepared to make and take meaning in the critically reflexive way that will enable them to make sense of school reading and writing practices in later years" (p. 75). Rote and chant learning also do not assist children learning new

words, developing sophisticated grammar or discourse. SAIDES' Grade R Research Dissemination report (2011) recommends that early childhood learning be “non-formal, interactive, creating, learning-through enquiry, hands-on, and involving play-based, experiential learning for both adults and child” (p. 31).

1.19. Problems with Preschool education in South Africa

Despite the proven benefits of preschool education, the South African Government has no policy regarding Pre-School education being compulsory. According to Scott (2012) the Department of Education spends “less than one percent of its budget on early childhood education. At most 17 of every hundred children have access to any kind of preschool. In addition, the amount of organizations which train and support early childhood teachers has decreased (Scott, C, *Education in South Africa. Are Preschoolers getting their due?* *Inter Press Service*. <http://psnews.net/print.asp?idnews=25520> Retrieved January 11/2012).

1.19.1. Challenges in meeting language needs at preschools

Table 1.1. provides a very detailed and admirable description of how language should be facilitated by preschool practitioners, for example, encouragement of language development, provision of fantasy games, a book corner. However, in practice, preschool environments do not necessarily provide the required language stimulation.

It is talking and listening to young children which assists them to develop good language and communication skills. These skills, in turn help children to express themselves, listen, learn, read, write and socialize better. It also helps children feel valued and builds their confidence (Talk to Your Baby, n.d. www.literacytrust.org.uk/talk_to_your_baby/about... Retrieved 13 November, 2012).

Possible reasons for problems of acquiring language could be that language, unlike gross or fine motor skills which are concrete and easy to observe, is an abstract concept. The nuances of receptive and expressive language skills versus speech are difficult to comprehend if the

practioner has not received training in this area. In addition, using pedagogic methods such as rote learning do not encourage the development of comprehension or spontaneous speech.

The lack of literacy and print materials also results in a lack of stimulation for the children. In Pankop minimal exposure to literacy may arise due to oral traditions being common in the culture. This is another reason why it is crucial to conduct research in this area using cross-cultural analysis and ethnography of communication into account. (Brice Heath, 1982).

1.20. Research Questions

To conclude this chapter, I will describe the research questions that I devised for this study. These questions are based on the issues raised in the chapter above as well as more details of the passive which are presented in Chapter 2. The main research question relates to the development of the passive, in terms of how Setswana-speaking children understand and produce the different verbal passive categories. In addition, the research examines the Setswana-speaking children's passive abilities related to the length variable - whether passives have no *by*-phrase, i.e. short passives or do have a *by*-phrase, i.e. long passives. The final research question analyses the usefulness of the passive construction as an assessment tool for Setswana-speaking children. Ultimately the results of this study will, therefore, contribute to the controversy over when and how the passive develops.

1.21. Description of the Chapters

Chapter 1 forms the introduction and rationale for this study as described above.

Chapters 2 and 3. These 2 chapters shape the literature review for this dissertation. Chapter 2 focuses on linguistic research which deals with the variation and controversies related to children's acquisition of the passive. In Chapter 3, I describe the Speech Language Therapy

literature pertaining to the passive. This chapter also highlights the materials and assessment which will inform the methodology.

The methodology for this dissertation is described in **Chapter 4**.

The results and discussion chapter are to be found in **Chapters 5 and 6**. In Chapter 5, I provide the results of the 2 Comprehension tasks assessed in this study. Chapter 6 describes the findings of the Elicited Production and Elicited Imitation tasks.

The conclusion of this study is found in **Chapter 7**. It highlights the limitations of the study as well as suggesting directions for future research.

Chapter 2

The passive verbal construction

The passive transformation is called the “Granddaddy of them all” (Ross, 1974, p. 64). There are many different reasons for this statement. For example Deen (2011) states that the passive voice is the

most well-studied phenomenon in all of child language. From the earliest days of the modern era, it has been noted that children appear to have difficulties with the passive, both in comprehension and production (p. 155).

It is very interesting that the passive construction is so well studied considering that Brown (1973) in his seminal study examining children’s first 13 morphemes found that this construction to be used infrequently. Gordon and Chafetz (1990) found that the passive is only used in 0.1% of English child directed speech. Until 1985 cross-linguistic studies which found the passive to be used more frequently in languages other than in English were almost nonexistent.

I asked Professor Jill DeVilliers who together with her husband Professor Peter DeVilliers, conducted one of the most influential studies which investigated the comprehension of the passive using act-out tasks, why they had such an interest in studying the passive when this construction is so rarely used. Her response was as follows:

In English, it was of interest initially because it distorts the major word order SVO or agent-action-object, and the child made errors with it in comprehension. Then the claim was that the movement involved was only possible once the child was "mature" enough for A-chains, then the rest is intellectual history reviewed in everyone's recent work! (J.G de Villiers, personal communication, August 25, 2012).

It is Deen’s belief only now, after 4 decades of intensive research, that children produce the passive as early as three and four years due to recent findings from priming studies (Bencini and Valian, 2008; Messenger, Branigan, McLean and Sorace, 2009; Shimpi, Gamez, Huttenlocher and Vailyeva, 2004).

However, it is the nature of research relating to the passive construction, that as soon as one claim is made it is contradicted by findings of different research. For example, Armon-Lotem et al. (in press) in a cross-linguistic study of 11 languages found that five year olds have not yet mastered the comprehension of the passive. Armon-Lotem et al.'s study is part of the COST (European Cooperation in Science and Technology). The COST ACTION A33 Cross-linguistically Robust Stages of Children's Linguistic Performance, is a project that conducts a European comparative study of child language acquisition which focuses primarily on 5 year old children.

Further, it could be stated that the passive is considered to be a complex grammatical construction (Pinker, Lebeaux and Frost, 1987). Sudhalter and Braine (1985, p. 455) concur and state that "it is well known that passives are generally more difficult to understand than actives." Yet Slobin (1992, p. 9) claims that there is "nothing inherently difficult about a structure like the passive if it is frequent and serves salient discourse functions."

The passive is a construction upon which numerous linguistic theories have been based. In Transformational Grammar (Chomsky, 1957, 1965) Chomsky considered the passive to be "an obvious support for transformational grammar" (Horgan, 1978 p. 65). Other theories of the passive are Lexical Functional Grammar (Bresnan, 1982; Bresnan and McHombo, 1987) and Arc Pair Grammar, Postal (1986).

An additional issue is the numbers of disciplines that are involved in the research of the passive. In fact, Ross described himself as a linguist writing for cognitive psychologists (1974). The passive has been studied extensively by different disciplines such as cognitive and experimental psychologists (Peter de Villiers, 1973; Pinker, 1987; Wexler, 1987), linguists (Chomsky 1957, 1965, 1981; Demuth, 1989) and psycholinguists (Jill de Villiers, 1973; Maratsos, 1974).

Investigating the passive becomes even more complicated as each discipline has its own terminology, for example negative passives can be referred to as adversarial or malefactive passives. The terminology used in this study can be seen with the list of alternative forms can be found in the Table of Contents section.

2.1. Structure of this chapter

Following on from chapter 1 (the rationale for the crucial importance of developing a research base both in languages other than English as well as a research base for Speech Language Therapy in South Africa), the focus of this literature review will be the cross-linguistic features of the passive. However, most of the research has been conducted in English. Therefore, results of English studies will be provided but the main emphasis will be on cross-linguistic research. Appendix 2A is a map that shows many of the languages in the world where the passive has been investigated¹¹. The data will be presented as a combination of the overview of theories and the data that was obtained from studies conducted to prove or disprove the theories.

This chapter will begin with a description of the function of the verbal passive. After this, definitions of passive verb structures that will be investigated in this study will be provided. Research conducted on the different passive categories will also be described in the definitions section. A summary of the studies mentioned in the chapter and methods used to conduct the research is provided in Appendix 2B. It must be borne in mind that these definitions tease apart different aspects of the passive in order to explain them clearly, for example, non-actional passives. However, in actual fact all aspects described are integrated, for example, both short and long non-actional passives may be examined by different researchers. Other researchers may

¹¹ The list represents languages I have come across during this study. I make no claims that it consists of all the languages in the world where studies of the passive have been conducted.

investigate children's performance across categories such as the negative and non-actional passive as well as considering the length variable.

A historical perspective will then be provided. A description of the structure of the Setswana passive and passives in other South-eastern Bantu Zone languages follows.

The age of acquisition of the passive and frequency of the passive will be illustrated within this cross-linguistic framework. The conclusion of the chapter will portray the theories which relate to the acquisition of the passive in the Sotho language group. Throughout the chapter the variability in research results will be highlighted. Examples of imitation, comprehension and production studies will be provided but described in more detail in Chapter 3.

2.2. Definition and function of the passive

The passive form of the verb in Setswana shows that: "the subject of the verb is acted upon, affected or produced by some external force or agency, and therefore has much the same significance and function of the "passive voice" in English" (Cole, 1955, p.195). Doke (1990, p.135) reiterates this description for the passive in Zulu when he states that "the passive in Zulu indicates that the subject is acted upon by an agent, and carries the same force as does the passive voice in English."

Universally, the passive involves a non-canonical word order and specific verb morphology (Armon-Lotem et al. in press). Similarly Jespersen (1965 [1924], p.167) states that 'we use the active or passive turn accordingly as we shift our point of view from one to the other primaries contained in the sentence.'

Keenan and Dryer (2007), Saeed (1997) and Armon Lotem et al. (in press) concur that the passive construction is used as a way of perspective-taking which allows for fore-grounding

and back-grounding operations which affect the subject and object in sentences as example 1 below shows:

- (1) a. Mary slapped John
- b. John was slapped
- c. John was slapped *by* Mary

Keenan and Dryer (2007, p. 326) consider passives “foregrounding or topicalised constructions compared with the syntactically less marked and pragmatically more neutral active. The choice of the passive sentence in example (1b and 1c) instead of the active sentence in example (1a) foregrounds *Mary*, the patient while *John* the agent is sent to the background.”

Sentence 1c is an example of a long passive in English as it has the *by*-phrase *Mary*. Sentence 1b is considered a short passive sentence. Short and long passive sentences will be discussed below.

Deen (2011) provides the example of the active sentence *the dog chased the cat* and the passive sentence *the cat was chased by the dog* as both being grammatical sentences in English, with both sentences describing the same scene. In English, children would tend to use the active sentence and acquire it before the passive.

According to Deen (2011) the passive would be used when:

(i) one wants to de-emphasise or hide the identity of the agent. All passives have the function of demoting the agent, (ii) the passive can be used to place emphasis on the patient of the action and (iii) the passive can be used to retain the topic of conversation in subject position across multiple clauses, or (iv) when the speaker wishes to express a sense of adversity or distress (p. 157).

However, Crawford (2012) points out that the notion of the passive as well as passive constructions varies across different world languages. In fact Chomsky (1981) considers that what is actually called passive is a heterogeneous entity.

2.3. Verbal passive categories

Table 2.1. shows the various passive categories that will be examined in this study. In addition, the length of the passive as related to the passive category will be described.

Table. 2.1 Verbal passive categories

Category	Reversible	Negative	Non-actional	Inanimate	Impersonal	Reversible	Negative	Non-actional	Inanimate	Impersonal
Length	Short Passives					Long passives				

2.3.1. Reversible passives

According to DeVilliers (1985) reversible passives are sentences with two animate Noun Phrases. In passive sentences the subject and object can be interchanged while continuing to maintain a syntactically and semantically acceptable construction (Baldie, 1976), e.g. *the soldier was carried by the Captain* → *The Captain was carried by the soldier*

Many authors have found that five year old children are able to understand the passive when reversible passives are used (Lempert, 1990; Pinker, Lebeaux and Frost, 1987). Armon-Lotem et al. (in press) used reversible verbs in their cross-linguistic study. It is interesting to note, however, that three year old children understand reversible passives as active sentences according to authors such as Maratsos (1974), Strohner and Nelson (1974), Rubin (2004) and Sudhalter and Braine (1985).

2.3.2. Negative/adversity passives ¹²

Negative passives occur when the patient is negatively affected by the action in verbs e.g., *hit*. Suzman (1987) described these as early developing passives. Japanese children acquire negative passives earlier than the other categories of passives according to Miyagawa (1989) and Sugisaki (1998). These authors found that the negative passives do not involve movement. Negative passives are, therefore, treated as a negatively affected agent or malefactive argument.

Crawford (2005) considered the fact that early Sesotho passives could be similar to

¹² Maratsos, Kuczaj, Fox, and Chalkley (1979) also examined the negative passive in English.

Japanese negative passives. Crawford (2005) re-analysed Demuth's (1989) naturalistic data and showed that in about half the data from two of the three subjects, this could have been using an adversity morpheme.

However, Demuth et al. (2009; 2010) found that there was no difference in response rate for positive or neutral passives as opposed to negatively affected verbs. According to Demuth et al. (2010, p.22) Sesotho exhibits "no morphological or syntactic distinction between neutrally and negatively affected patient passives."

2.3.3. Non-actional passives

Non-actional passives denote experience or non-action. Examples include 'see, hear and like' (Deen, 2011). Parramon Chocarro (2009) describes non-actional passives as "those that cause or provoke a change or transition from one mental state to another mental state (*frighten*), or express the state after a mental process has taken place (*fear*). Usually instead of an agent the object is an experiencer.

Maratsos, Fox, Becker and Chalkey (1985) performed a study to determine whether actional verbs or non-actional passives would be easier for children to acquire. They hypothesized that actional verbs e.g. kiss would be easier for English-speaking children to understand than non-actional passives. The results of the study supported their hypothesis as the four and five year old respondents performed better on actional passives and children had difficulty with non-actional passives until the age of nine.

Authors such as Sudhalter and Braine (1985), Gordon and Chafetz (1990), Fox and Grodzinsky (1998) and Hirsch and Wexler (2004; 2006) also conducted studies to examine children's abilities to comprehend actional and non-actional long and short passives. Results of these studies show that children continue to have difficulty comprehending full, non-actional passives at age five.

Crawford (2008) replicated Hirsch and Wexler's (2006) study with Sesotho-speaking children. She also found that 6-year-old Sesotho-speaking children had difficulty understanding non-actional passives. However, different results were obtained by Demuth et al. (2009; 2010) as discussed elsewhere in this chapter.

Many researchers such as Demuth et al. (2009; 2010) and Fox and Grodzinsky (1998) who have conducted studies with non-actional verbs commented on the difficulty in actually depicting the non-actional verbs e.g., 'see' and 'hear.' Therefore, authors have used different methods to depict non-actional passives e.g., Maratsos et al. (1985) and Rubin (2009) used thought bubbles.

2.3.4. Inanimate passives

Inanimate passives do not allow the manoeuvring permissible for reversible passives e.g. *the timber is planed by the carpenter* → *The carpenter is planed by the timber* (Baldie , 1976, p. 331). Van der Lely and Dewart (1986) have found that inanimate passive sentences are understood earlier than reversible passives. These authors claim that the reason for this is that inanimate sentences are not so difficult for children to acquire as the identification of the actors is explicit and is "supported by world knowledge" (Armon-Lotem et al. in press). In contrast to this, reversible passives require that children have grammatical knowledge.

Stephen (1988) found that 3 – 4 year old Zulu speaking children performed best on inanimate passives when compared to reversible and negative passive categories. Trosborg (1982) found that children understood inanimate passives earlier than other categories when using Piagetian conservation tasks in Danish.

2.3.5 Impersonal passives

The Bantu languages have the impersonal passive construction as a particular variant of the passive. Impersonal passives “refers to constructions that lack a grammatical subject and show invariable agreement on the verb” (Zerbian, 2007, p. 1). Cole (1982) defines the “impersonal construction as the subjectival concord *go-* of class 9 as being common” (p. 195). The impersonal construction refers to Locative Class 17. The impersonal passive performs the function of *it* or *there* in impersonal passives in English.

Crawford (2005) as well as Demuth and Klein (2006, p. 378) define the impersonal passive in Sesotho as subject agreement being filled with the “expletive marker *ho* (locative class 17). Machobane suggests that in Government-Binding Theory (Chomsky, 1981) *ho* is a subject clitic generated under inflection and that it assigns nominative case to the NP and verb phrase (p. 41). This construction does not have “semantic content; it is a non-referential ‘dummy’ subject (Demuth, 1989, p. 79). This class does not agree with any noun in Sesotho and “carries presentational focus. Impersonal passives do not require A-chain movement according to Crawford (2005). Machobane (1987, p. 51) states that “Sesotho is able to form *ho*-passives as productively as movement passives.” An example of an impersonal can be seen in example 2 below:

(2) *Ho- a - bin-w- a*¹³

17-PRES –sing-PASS FV

‘There is being sung’ (There is singing)

Cole (1982) considers that one of the reasons why “passive verbs are used much more commonly in Tswana than in English is due to the impersonal construction” (p. 195). English does not have impersonal passive structures. However, other Indo-European languages such as

¹³ Glosses will be provided when authors provide these

Dutch and German (Perlmutter, 1978) and French (Postal, 1986) do have impersonal passive structures.

Verrips (1996, p.71) states that:

there are virtually no data on the acquisition of impersonal passives... Though the past decade has seen a number of studies investigating the acquisition of passive in languages other than English, none of these studies pays systematic attention to passive of intransitive verbs (Mills, 1985; Suzman, 1987; Pye 1991).

Unfortunately, impersonal passives could not be examined in the comprehension task of this study. The main reason was that this category of passives could not be depicted successfully to test participants' knowledge of impersonal verbs. An example is that in short sentences it is not possible to identify who the patient is e.g. *gona le teye e e dirilweng* 'there is being made tea'.

2.4. Short and long passives

Table 2.1. also shows the length variable for passive. Therefore, Table 2.1 shows that the verbal passive categories and length are interlinked and need to be considered together.

An example of a short passive in English is *the boy was hugged*. *The boy was hugged by the girl* is an example of a long passive sentence. The long passive, therefore, contains the optional *by*-phrase *the girl*. Deen (2011, p.162) explains that due to the fact that the purpose of the passive is to "de-emphasize or hide the identity of the agent, the *by*-phrase is often omitted".

Different theories have been proposed regarding why long and short passives develop at different ages, if in fact they do. Slobin and Welsh (1968) claimed that for the comprehension of sentences, long and short passives are processed in a different manner. This theory has been contradicted by Maratsos and Abramovitch (1975) who suggested that children have equal competence in long and short passives. They, therefore, claimed that children's abilities to comprehend long and short passives develop almost synchronously. Deen (2011) believes the

optionality of the *by*-phrase that hides the agent of the action can make the passive difficult to understand.

Contrary to these findings Stromswold (no date), when analysing 13 children's CHILDES corpora, found that "on average, children don't begin to use full passives until at least 9 months after they use short passives" (p.4). Following on from this finding, one of the research questions in Armon-Lotem et al.'s (in press) cross-linguistic study was whether long passives were harder to learn than short ones. 274 children speaking 11 different languages aged between 5.0 and 5.11 were the subjects of this study. The 11 languages belonged to different language groups which include Indo-European, Finno-Urgic and Afro-Asiatic. Picture Selection tasks were used to study the comprehension of the long and short passives.

The results of this large study showed that in eight of the 11 languages respondents had more difficulty understanding long passives than short ones at age five years. This difficulty was particularly true in Catalan, Hebrew and Lithuanian – comprehension was at chance level in these languages. The majority of errors were reversal errors "indicating preference for the canonical word order of the language in the absence of understanding of the passive construction" (p. 47). These authors, therefore, conclude that:

variation stems from the specific characteristics of each language and good mastery of passives is not a universal cross-linguistically valid milestone in typical language acquisition. Therefore, difficulties with passives (short or full) can be used for identifying specific language impairment (SLI) at the age of five only in those languages in which it has already been developed by typically developing children (p. 49).

I really admire the extensiveness of this comprehension study with respect to the diversity of the languages examined. However, I feel it would have been a stronger study if more of a cross-sectional approach in terms of age would have been taken. If children had been tested from the age of three years, which is common practice in the passive literature, the results would have been richer in terms of describing the acquisition of the passive.

Parramon Chocarro (2009) examined the acquisition of actional passives in Catalan as part of the COST project as well as for his Ph.D. 82 children aged from 3.1 to 5.11 were the participants of Parramon Chocarro's study. The aim of the experiment was to test the children's comprehension of short and long passives as well as active sentences on a 4 Picture Selection Power Point task. They used the third character as an agent experiencer as described below.

The results indicate that there were statistically significant differences among age groups but within every age group all groups performed better at short passives (Parramon Chocarro, 2009). The participants did not perform as well on long passive tasks but Parramon Chocarro (2009) explains that this may be due to the structure of Catalan. In Catalan the preposition *per* is only used in the verbal passive but not in nominals to introduce an agent.

Contrary to the findings of Armon et al. (in press) O'Brien, Grolla and Lillo-Martin (2006) replicated Fox, Grodzinsky and Crain (1995) study using a Truth Value Judgement study with an additional agent/experiencer. Their rationale for this is that the additional agent/experiencer motivates for the use of the *by*-phrase by creating felicitous conditions. The results of this study showed that 3.5 to 3.11 children and 4.0 to 4.10 years old were able to comprehend long non-actional passives, additional details are provided in Chapter 3.

2.5. Historical perspective

I am privileged to be writing this dissertation at this time, some four decades after the passive was first investigated by authors such as Turner and Rommetveit (1967). The reason for this is that the stalwarts of passive research such as Jill de Villiers and Virginia Valian who conducted some of the seminal experiments in the 1970s (Bever, Mehler and Valian, 1973; de Villiers and de Villiers, 1973) continue to contribute greatly to the literature. In de Villiers (1984) found that three and four year olds were more able to use reversible and non-actional

passives if they had repeated these verbs before in a passive syntactic frame. Jill de Villiers together with Thomas Roeper (2011) have just edited a book entitled the Handbook of Generative Approaches to Language Acquisition. It is in this book that Deen provides a comprehensive review of the acquisition of the passive. As previously mentioned, Bencini and Valian (2008) have conducted their priming study indicating that the passive can be produced as early as age three and four years. Ambridge and Lieven (2011) contend that one of the reasons for the late acquisition of the passive found by some researchers such as Horgan (1978) is due to methodological issues such as the use of a picture description task.

Katherine Demuth has repeated her 1989 study of the acquisition on the passive together with her colleagues Moloi and Machobane (2009; 2010). In addition Armon-Lottem et al. (in press) have conducted an extensive cross-linguistic study of the comprehension of 11 languages as mentioned previously. Some of my peers have also completed their dissertations showing interesting findings (Crawford, 2012; Orfitelli, 2012).

2.5.1. Previous research

Baldie (1976) examined the acquisition of the passive using the methodologies of imitation, comprehension in the form of picture selection tasks and production in the form of picture description tasks. He tested 100 children aged from 3 to 8 years. His results showed that his subjects had the ability to imitate passives before age five. These children were able to comprehend passives by age 6 and produce these passives by age 7.6.

Historically, Allen and Crago (1996, p. 129 - 130) consider that:

the passive structure has been central in both linguistic theory and language acquisition over the past few decades. In linguistic theory it has been crucial in establishing the existence of underlying subject and object and in developing the notion of constituent movement. In language acquisition it has played a major part in developing our understanding of how children comprehend language and handle linguistic structure.

Early studies of the passive were based on Chomsky's theory of transformation grammar, mentioned previously (1957; 1965). Authors such as Menyuk (1963) found that when relating "transformational complexity" passives developed relatively late (Chang, 1986, p. 115). Whitehurst, Ironsmith and Goldfein (1974, p. 290) comment that the "passive is comprehended poorly and produced very infrequently by the nursery school age children used in this study". The age of Whitehurst et al.'s participants were 4.1 to 5.6 years.

Following on from these studies, the theory of derivational complexity attempted to predict the order of development. Therefore, the focus of the research since the seminal work of Bever (1970) has been aimed at children's interpretation strategies. Bever (1970) found that 4-year olds were able to deal with a noun-verb-noun sequence as actor-action-object (p. 298). Additional research in this area has been conducted by authors such as DeVilliers and DeVilliers (1973), Maratsos (1974) and Strohner and Nelson (1974).

According to Deen (2011) the main findings from the early studies on the passive were as follows:

- (a) The passive is generally delayed, with acquisition not being complete until well after age 6 years.
- (b) The ability to imitate passives is acquired before the ability to comprehend passives, which in turn is acquired before the ability to produce passives.
- (c) Passives occurring with non-actional verbs are significantly more problematic for children than passives occurring with actional verbs.
- (d) So-called 'long' passives (with an overt *by*-phrase) are more difficult for children than short passives (with no *by*-phrase).

The first cross-linguistic studies conducted in Sesotho and Zulu were naturalistic studies conducted in rural areas where standard forms of these languages were spoken. Demuth conducted her study in Lesotho (1989) and Suzman in rural Kwa Zulu Natal (1985, 1987, 1990).

2.6. The passive construction in Setswana

This section is a more in depth description of the passive construction in Setswana described in Chapter 1. With respect to the structure of the passive in the Bantu languages and English, the basic word order of the passive is: object, passive verb, agent (Menyuk, 1971; Demuth, 1992). According to Jaegli (1986), passive constructions occur as a result of the interaction of certain morphological and syntactic operations. Despite the fact that languages may belong to different language groups the morphosyntactic structure of the passive is very similar.

Kruger and Pretorius (2006) provides a semantic definition of the passive by considering that the “logical object of the verb becomes the grammatical subject, in other words the grammatical subject is actually the logical object of the verb.” (p. 243) as can be seen in example below:

(3) Logical subject (Agent)	Verb	Logical Object (Patient)
<i>Mosadi</i>	<i>o-roma</i>	<i>ngwana.</i>
‘The woman	sends	the child.’
Grammatical subject (Patient)	Verb	Agentive Group (Patient)
<i>Ngwana</i>	<i>o-romiwa</i>	<i>ke mosadi.</i>
‘The child	is sent	by the mother’

In Setswana the passive is produced in the same way as in other languages (Quirk, 1978).

a) The subject or agent of the passive clause is a direct object or patient in the corresponding active.

b) The subject of the active clause is expressed in the passive in the form of the agentive adjunct or patient found in the *by*-phrase. The *by*-phrase “takes the form of an agentive adverb with the prefixal formative *ké-* (Cole, 1955, p.192). Kruger and Pretorius provides the same

description i.e. if the logical subject or agent is mentioned it takes the form of a complement of the copulative *ke*. The *by*-phrase can also be left unexpressed, resulting in a short passive.

c) The verb is marked as passive. The verb is marked with a passive extension by suffixing *-w* or *-iw-* instead of the final vowel *-a* (Cole, 1955; Kruger and Pretorius, 2006). Kruger and Pretorius (2006) consider the passive suffix to fluctuate and vary from being compulsory to varying according to “dialectal preferences” (p. 244). Verbs in which the final syllable includes consonants such as /g/, /k/ and /n/ take the /w/ suffix such as *go-rékwa* ‘is being bought’. Verbs which take the *-iw-* are /tlw/ and /tsw/ as in *go-ntshwa* ‘to take out’.

Kotzé and Zerbian (2008) disagree with *-iw-* “as the underlying passive morpheme” (p.1). They take the view that there is ‘a single phonological environment’ (p. 6) and the underlying passive form is always the short form, i.e. /w-/ in the Sotho language group.

The *by*-phrase “takes the form of an agentive adverb with the prefixal formative *ké-* (Cole, 1955, p.192) as can be seen in example 4:

(4) *Dipodi dikerêkwa ké nna*

Goats- sm-bought-pass-m prefixal formative e

‘The goats are being bought by me’

A difference that does exist between the structure of the passive in Bantu languages and English is that the adjectival passive in a sentence such as ‘the pillows remain stuffed (Levin and Rappaport, 1986) does not exist in the Bantu languages. The reason for this is that adjectives are not commonly used structures in the Bantu languages. Instead relative stems are used “to fill in the gap left by the dearth of adjectives” (Suzman, 1991, p. 21).

2.6.1. Frequency of the passive in Sesotho and Zulu

Demuth (1989, p. 73) claims that the passive “is a very basic canonical grammatical construction in Sesotho”. In fact, “without the passive the grammar of Sesotho would have to

radically be restructured”. Thus Demuth (1989, p. 73) claims that Sesotho “forces the use of passive constructions where other languages may use active constructions.”

Topic orientation is the reason that passives are used more frequently in Sesotho than in English (Demuth, 1989). This is a discourse principle that prohibits new information from occurring in subject position. Only old information is allowed in subject position. Topic orientation does not permit question words in initial position, if a subject is questioned. This can only occur with a passive construction containing a *by*-phrase as can be seen in example 5.

(5) *O- shap-ile- o- e ke mang*

Sm-lash-prf-PASS-m-*by* who

‘You were slashed *by* who?’

Answers to questions also cannot be given in subject position, e.g.

The child is drinking a corn drink and the grandmother asks

(5a) *O- o nk-il -e kae?*

Sm-obj-get-prf-m-where?’

‘Where did you get it from?’

The child replies (5b)

(5b) *Ke-o -f- uo e ke ausi Linaese*

Sm-obj-give-prf-PASS-m *by* sister Linaese

‘I was given it *by* sister Linaese’

The passive has also been found to develop early in languages such as Tagalog (Segalowitz and Galang, 1978); Turkish (Aksu-Koc and Slobin, 1985), Quiche Mayan (Pye and Quixtan Poz, 1988), Inuktitut (Allen and Crago, 1996) and most recently Q’anjob’al Mayan (Pedro, 2010) and Cantonese (Lau and Deen, in press). As mentioned previously Demuth and

Suzman in isiZulu, have found that children use the passive productively by age 2.8 in Sesotho and Zulu (Demuth, 1989, 1990, 1992; Suzman, 1985, 1987, 1991) and impersonal passives first appeared at age 2.8 – 2.9 years.

Demuth has recently confirmed her initial findings which were disputed by some, because naturalistic data was used for this research (Deen, 2011). Demuth et al. (2009, 2010) investigated the passive using 16 first language Sesotho speaking children aged between 2.11 to 3.5 years using multiple methods. The tasks were Picture Selection tasks, choosing between two pictures, elicited production tasks and generalising novel verbs to passive frames. Active verbs as well as reversible, non-actional, negative passive categories were tested.

The results of Demuth et al. (2009, 2010) study showed that children comprehended active sentences (82%) better than passives (73%). The difference between reversible passives (77%) and non-actional passives (69%) was not significant. This difference was also found with the 10 adult controls who scored 99% for reversible passives and 89% for non-actional passives. Demuth et al. (2009, 2010) attribute the relatively poorer performance on non-actional passives to difficulties in depicting the non-actional passives as described previously.

However, these results have to be considered though in relation to the fact that there was a drop-out rate of over 50% of the children who could not complete this task (Alcock, Rimba and Newton (2011). Demuth et al. (2009, 2010) had discarded 14 children due to “an inability to sit still and attend to the task” (p. 22). Also, respondents who did not pass the warm up task were discarded. The fact that a two picture selection task was used may also contribute to the high dropout rate. This issue is discussed in more detail in Chapter 3.5.2 I consider this high dropout rate to be a limitation of Demuth et al.’s otherwise extremely illuminating study.

On the elicited production tasks child participants were tested on six positively affected reversible passives and six negative passives. Similar results were obtained for agent-focused questions in active responses (98%) and 95% for patient-focused questions which produced passive responses. There was no difference between reversible and negative passives.

For the novel verbs all the subjects were able to “generalise novel verbs to both active and passive frames ... indicating that the active/passive alternation must be commonly heard and used by these Sesotho-speaking 3-year-olds, and that priming facilitates a similar response” (Demuth et al. 2010, p. 32).

Therefore, these authors conclude that “Sesotho-speaking children achieve early competence with passive syntax due to the relatively high use of the passive in child-directed speech, often accompanied with a *by*-phrase.”

The fact that when the passive construction is used often by adults, children acquire the passive early, has been found by other researchers in different languages, such as Gil (2006) in Jakarta Indonesian. Gil (2006) has investigated 50 000 utterances produced by eight children in an ongoing longitudinal study. Analysis of his results show that Jakarta Indonesian speaking children acquire the prefixes which represent the active and passive markers very early, sometimes before 2 years of age.

2.7. Cross-Linguistic research on the passive

Menn and Obler (1990, p. 8) claim that “... cross-language comparisons play the essential role of making it possible to distinguish valid from spurious generalizations, by permitting the examination of a wide variety of combinations of linguistic devices.” Slobin (1992, p. 3) has commented that additional information is constantly becoming available

concerning cross-linguistic language acquisition. However, he states that “there is far more to be done in the Americas, Africa... (p.3). Please refer to Appendix 2A.

2.7. 1. Cross-Linguistic acquisition of the passive in Zulu

Table 2.2 is a summary of all the acquisition studies of the passive conducted in the Bantu languages. However, as regards to Zulu and as can be seen in this table, Suzman (1985, 1987, and 1990) found that passives were used early by Zulu-speaking children. She also found that parents used passive forms in who-subject questions when speaking to children as young as one year and ten months. E. Rassman (personal communication, October 21, 1991) confirmed that passive forms were used productively in Zulu. It must be noted that Suzman conducted all her research with naturalistic data from a maximum of three children in each study. Her research was conducted in rural Kwa Zulu Natal.

Stephen (1988) examined developmental trends in the acquisition of the passive in three to four year old Zulu-speaking children. She also investigated the categories of reversible, negative and inanimate passives. Her results indicated that there was a developmental trend in which participants’ performance improved from age three to four. In addition, they responded best on inanimate categories. She also found that participants’ understanding of the passive was better than their expression.

In an earlier study I established a language assessment for preschool Zulu speaking children (Bortz, 1995). 773 subjects participated in this study. Subjects scored the highest on the passive subtest.

Table 2.2 Studies examining the acquisition of the passive in South-eastern and Eastern Bantu Zone Languages

	Early Passive Development (By age 3)	Developmental Pattern of Acquisition	Late passive development (after age 6)
Sesotho	Demuth (1989)	Bortz (1998)	Crawford (2008, 2012)
	Demuth et al. (2009, 2010)		
Zulu	Suzman (1985, 1987, 1991)	Stephen (1988)	
		Bortz (1998)	
*Kiswahili	Alcock et al. (2011)		
	Used passive sparingly (Deen 2002) - * based on the same data as Alcock et al. (2011)		
Kigirama	Alcock et al. (2011)		
IsiXhosa	Used passive sparingly by age 3 (Gxilishe et al. 2008)		

2.7.2. Kiswahili and Kijirami – Eastern Bantu Zone Languages

Alcock et al. (2011) investigated 15 children who were speakers of Kiswahili and Kigirama aged between 1.9 years to 3.4 year using spontaneous speech samples. They examine two dialects of Kiswahili, one spoken on the Coast of Kenya and the other in Nairobi. In these languages there is no use of topicalisation as there is in Sesotho.

Their findings showed that the children used the passive “productively very early (2.1) in these languages, regardless of the method used to measure productivity¹⁴¹⁵. Kiswahili and

¹⁴ The passive is formed in the same way in Ndebele (Khumalo, 2009).

¹⁵ Only spontaneous speech samples are mentioned in this study.

Kijirami children used short and long passives. In addition, non-actional passives, particularly rare in English and some other European languages, were seen at these early ages” (p.1). It must be noted that the participants only used one non-actional passive *itwa* ‘be called’ which is not listed as non-actional in the Appendix where all passive verbs used are listed.

These authors believe that this early productive use of the passive is due to the relatively high input found in Kiswahili and Kijirami. They also found that adults use both question passives and non-question passive in their input to children in both languages. Alcock et al. (2011) comment on Demuth et al.’s findings that the Sesotho-speaking children in their study used long passives with a *by*-phrase because the *by*-phrase is “tied up with obligatory use of the passive in some question constructions” (p.4).

A limitation of Alcock et al.’s study, in my opinion, is the use of the spontaneous speech samples. I believe that these samples can provide very important information. As Demuth (1998) in her Chapter about collecting production data describes, spontaneous speech samples are particularly valuable when “beginning to study a language on which there is little or no previous acquisition research. Indeed it is longitudinal spontaneous speech samples that produced the groundbreaking studies which showed the early development of passive in Sesotho and Zulu (Demuth, 1989, 1990; Suzman 1985, 1987 and 1991). These samples are also particularly useful when they are conducted longitudinally as they provide “an excellent picture of the overall course of development for a given language” (Demuth, 1998, p. 21).

In the Alcock et al. (2011) study participants were only recorded on one occasion for the coastal dialect of Kiswahili and Kijirami. Yet for Kiswahili spoken in Nairobi these authors made use of Deen’s (2002) spontaneous speech sample which had “between 1 to 11 data points for each child” (Alcock et al. 2011, p. 8).

These authors explain that the large drop-out rate in Demuth et al.'s (2009, 2010) study is due to "the difficulty of carrying out experimental studies with children who are unused to interaction with strangers, as in the case for most children living in poverty in developing countries" (Alcock et al. p.5). I agree that poverty affects children's performance as I discussed in Chapter 1.

However, I don't believe that the participants in Demuth et al.'s study performed poorly due to their unfamiliarity with strangers. Demuth et al. themselves attribute the children's drop-out rate as well as relatively poor performance on comprehension tasks due to the children's lack of familiarity with pictures. The fact that the children in this study perform well on elicited imitation tasks as will be seen in Chapter 5 shows that performance is more likely related to task rather than poverty.

2.7.3. Contradictory findings from Bantu languages

Interestingly in other naturalistic studies of Bantu languages such as Swahili (Deen, personal communication, January 21, 2008) and isiXhosa, (Gxilishe et al., 2008) the passive was found to be used very sparingly by three year old children. However, Alcock et al. (2011) used Deen's data (2002) to show that children as young as 2.1 years used the passive productively with non-actional verbs in Kiswahili.

I conducted a study to investigate the acquisition of the passive in 26 bilingual Sesotho/English and Zulu/English children (Bortz, 1998). Act-out (Goodluck, 1998) and elicited productions tasks (Thornton, 1998) were devised to assess the participants' comprehension and production of the passive.

Results showed that participants performed better on passive tasks in Sesotho/Zulu than in English and better on comprehension than production tasks. The results also indicated that the

children's ability to understand the passive improved at age four and even more by five years.

However, the passive was not fully acquired by five years.

2.7.3. (a). Crawford's research

As mentioned in the non-actional passive section, Crawford (2008, 2012) replicated Hirsh and Wexler's (2006) study. She used a 2 picture selection computerised task. The pictures were of the Simpson Family, an American cartoon and in my opinion may not have been appropriate for Lesotho children, despite the fact that the school they were tested in had a computer centre. Twelve children constituted the younger group aged 3 to 6 years with a mean of 5.11 years and an older group of 51 subjects aged between 7 to 12.10 years with a mean age of 9.4 years. 10 adults were used as verifiers.

The results showed that Sesotho-speaking children did not perform any differently to English-children on long passives or passives of non-actional verbs. This result is despite the fact that there is "increased passive frequency" (Crawford, 2012, p. 13) in Sesotho. Also, children did not perform like adults on passive tasks. They also performed worse on non-actional passives.

In addition to the Sesotho study, Crawford conducted a grammaticality judgement task on 4 – 6 year old English-speaking children in her dissertation (2012, abstract). She found that "English-speaking children have knowledge of verbal passives when felicity conditions are met, though felicity might not be the sole factor." From a methodological point of view it is difficult to understand why both studies that Crawford conducted were not repeated for both the Sesotho and English participants.

2.8. Age and frequency of passive acquisition

Demuth (1989) describes the acquisition of the passive in Sesotho being divided into three phrases. These are summarized as follows:

Stage I: Before 2.7 years: infrequent use of verbal passives. Many verbs are commonly heard in the passive and others may be rote learned or modelled forms. Children are able to produce some passives while comprehension of long and reversible passives is good. Demuth (1989; 1990) found that subjects aged 2.1 – 2.3 and 2.4 – 2.6 produced passives in 0.4% of their utterances

Stage II: 2.8 – 3.2 years: The use of verbal passives increases to 1% of utterances by 2.7 – 2.9 years and down to 0.9% at 2.10 – 3.2 years. More verbs are used in the passive, and there is evidence of an ability to manipulate passive and active constructions. Impersonal passives first appear at age 2.8 – 2.9 years. In addition, Sesotho-speaking children as young as age 2.8 (Demuth, 1992) are able to use full passives with *bys*.

Stage III: 3;9 – 4 years: Verbal passives represent an increasingly large percentage of total verbal utterances, and the diversity of verbs used in the passive continues to increase. At 3.10 years subjects passives formed 2.1% of the corpus and 1.9% of the corpus in 4 – 4.1 year old children. Impersonal passives constitute a consistently large proportion (30.65%) of the passives produced.

In contrast to the Bantu languages, where the passive is produced by age three, this construction only begins to emerge in English at age three and a half. Table 2.3 shows the differences in age of acquisition between the passive in the Bantu languages and English.

Table 2.3 Difference in ages of acquisition of the passive in Bantu languages and English

Age Years	Sesotho / Zulu		English	
	Early Development	Late Development	Early Development	Late Development
2-3	Comprehension and production of early development reversible passives		Comprehension short and long passive	First Emerges
	Begins to use impersonal passives (2.8 -2.9)		(Crain et al. 1987; O'Brien et al. 2006)	
	(Demuth et al. 2009, 2010; Suzman 1985, 1987, 1991)			
3.6			Produces reversible passives (Bencini and Valian, 2008; Messenger et al. 2009; Shimpi et al. 2004)	
4-5				Comprehension passive (Armon et al. in press)
6		(Crawford, 2008, 2012)		Passive still developing (Stromswold, no date)
9				Infrequent <i>by</i> -phase (Horgan, 1978)
10				Frequency of spontaneous passive and <i>by</i> -phase (Horgan, 1978)
11				Uses reversible and inanimate passives (Horgan, 1978)

Column 3 of Table 2.3 indicates that the process of acquisition of the passive in English is a gradual one according to research conducted in the 1970s through to the mid 2000s. Armon-Lotem et al. (in press) still find this to be the case for comprehension of short and long passives. However, the third column indicates that children can comprehend the passive from ages 3 to 4 (O' Brien et al. 2006) and produce the passive from age 3 to 4 (Bencini and Valian, 2008; Messenger et al. 2009 and Shimpi et al. 2004). Column 2 indicates that Sesotho-speaking children acquire the passive later (Crawford, 2008).

The earlier studies show that development of the passive in English progresses until the age of four to five when children begin to correctly understand reversible passives in sentences (Crystal, Fletcher and Garmin, 1989). They understand these forms with action but not with non-action verbs (Horgan, 1978). Therefore, at five years they would understand a sentence such as 'Donald was kicked by Goofy' but not 'Donald was liked by Goofy' (Berk Gleason, 1989). Initially children also understand short passives and only later long passives (Crawford, 2012).

The original studies indicated that the passive is only completely understood and produced productively in middle childhood (Berko Gleason, 1989; Menyuk, 1971). At age 10 Horgan (1978) found that the frequency of spontaneous passives and the production of *by*-phrases remained low. This is not an unexpected finding as the *by*-phrase is not commonly used in English according to Givon (1979).

Horgan (1978) also found that at age 11, children used both reversible and inanimate passives with limited *by*-phrases. This finding has been disputed by other research e.g. in elicited production tasks, Crain Thornton and Marusugi (1987, 2009) found that five year olds were able to produce long passives. Smith-Lock (1993) also showed that 5.4 – 7.3 year old specific language impaired children and language matched subjects aged between 3.3 – 4.3 year

were able to produce long passives. Pinker, Lebeaux and Frost (1987) suggested that the use of the *by*-phrase is associated with discourse tasks. The results of their Study 1 examined the prevalence of productive passives in children's spontaneous speech. These data were obtained from four children "whose speech transcripts were converted to computer files as part of the Child Language Data Exchange System" [CHILDES, MacWhinney and Snow, 1985]. (Pinker et al. 1987, p. 201). The remainder of their data was obtained from 4 experiments conducted on 16 four year old English-speaking children. The results of all these studies showed that "children are productive passivizers".

When the children were taught new action verbs in the active voice and placed in a discourse context where passives were appropriate, they used passives anywhere from 25% to 88% of the time" (Pinker et al. 1987, p. 241).

In addition, a recent study using syntactic priming (Messenger et al. 2009) found that 84% of three and four year old respondents produced at least one full passive. In addition, these authors found that the "verb type" of the prime did not affect priming of passives suggesting that English-speaking children's early passives are not constrained in terms of actional and (object-experiencer) non-actional verbs (p. 285).

In all languages the passive is acquired after the acquisition of the active (Armon-Lotem et al. in press; Baldie, 1976; Menyuk, 1971; Sudhlater and Braine, 1984). These authors also showed that children were able to shift from the active to the passive.

One of the reasons put forward for this later acquisition of the passive is:

the meaning of the passive and active are essentially the same, use of the passive is rarely (if ever) obligatory. And so if children acquire active sentences early (which they do), and if they can get by perfectly well without ever using a passive, it seems natural that the passive should be a relatively late acquisition (Deen, 2011, p. 157).

Keenan and Dryer (2007) claim that languages vary greatly in the “productivity of their passives” (p. 360). The ability for languages to passivise varies on a continuum from languages which allow no passives at all to Bantu and Austronesia groups which allow all verbs to passivise.

Despite the Bantu languages ability to passivise all verbs, passives are still used infrequently, particularly compared to actives. In adult directed speech, Demuth (1989) found that the passive was used in 6% of utterances by adults. Later Demuth and Klein (2006) reduced this amount to 4% of child directed speech. Crawford (2012) points out that this amount of use cannot be considered to be “abundant” (p.12). Demuth et al. (2009, 2010) also comment that even in Sesotho where the passive is used more than the active, there is still more probability that Sesotho-speaking children will hear an active than a passive sentence.

In English one of the reasons for this is that passives are relatively infrequent in adults’ speech to children in English (Marchman, Bates, Burkardt and Good, 1991; Pinker et al. 1987). Pinker et al. reanalysed Brown’s data of the 713 utterances from Adam, Eve and Sarah and found no examples of the passive in the parents’ utterances. Gordon and Chafetz (1990) report that the passive is used in 0.1% of child directed speech.

Brown (1973) found that English-speaking children rarely use the passive. Also in English Harwood’s (1959) results of a study of 12 000 utterances of 5 year old children’s language, there were no occurrences of long passives. He did find that short passives were used more often and earlier than five years.

In Sesotho, Demuth (1989) found that the passive is used in a range from 0.4% of utterances by 2.1 year old to a maximum of 2.1% of utterances in 3.10 year old children.

However, early spontaneous use of the passive by Sesotho-speaking children is approximately three times greater than in English-speaking children according to Demuth (1992).

2.9. Theories of passive acquisition

As described earlier in this chapter, the study of the passive is linked to many theories. I have chosen to focus on the Maturational or A-chain Deficit Hypothesis (ACDH) Theory, because this theory has been linked to studies of passive acquisition in Sesotho.

2.9.1. A-chain Deficit Hypothesis

As mentioned previously the passive is derived from its active counterpart by the movement of the object into subject position as well as the optional positioning of the subject into a *by*-phrase (Deen, 2011). Figure 2.1 depicts the movement of the object into subject position. It is the movement of the object into subject which is the A (rgument) chain.

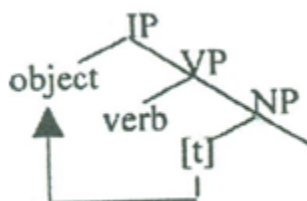


Figure 2.1 Movement of the object into the subject position

Sentences 6a is a sentence whose syntax is indicated by the trace [t]. This sentence indicates the position where Superman is moved from. Sentence 6b has no movement at all and is, therefore, interpreted as an active sentence:

- (6) a. Superman_i was chased [t_i] by Batman
 b. Superman chased Batman

Borer and Wexler (1987), Hirsch and Wexler (2006, p. 250) posit the ACDH. This hypothesis claims that children have problems with passives because of:

their inability to form the A (rgument)-chain between the underlying object and subject position. Due to the absence of this chain, children have no syntactic way to assign the correct thematic-role to the displaced object.

According to the authors mentioned above, within the ACDH children are not born with the ability to create A-chains. Therefore, they cannot create passive sentences initially. It is only with linguistic maturation or as Hirsch and Wexler claim “the cognitive operation licensing passivisation is innate and develops late under genetic guidance” (2004, p. 260). Therefore, children acquire A-chain movement by the age 5 in English.

In terms of the ACDH children have more difficulty with long passive sentences. This is because of the difficulty that children have representing A-chains (Parramon Chocarro, 2009).

Critics of the ACDH such as Demuth (1989) do not accept the claim of maturation. Questions such as how children ever develop the A-chain movement are asked. Additional questions regarding this theory is how it treats the differences between reversible and non-actional passives and long and short passives.

Proponents of the ACDH claim that this theory supports the findings that non-actional long passives are difficult for children to understand (Borer and Wexler, 1987; Hirsh and Wexler, 2004, 2006; Snyder and Hyams, 2008 and Orfitelli, 2012).

2.9.1.(a). Cross-linguistic studies which do not support the ACDH

Demuth (1989) states that the same A-chain formation that is used to form the passive in English is also employed in Sesotho as can be seen below.

(7). *lijo_i li pheh- il- o-e e_i (ke Thabo)*

food sm8- cook- PERF _ PASS-FV (by Thabo)

‘The food was cooked’ (by Thabo)’.

However, Demuth (1989) and Demuth et al. (2009, 2010) have repeatedly found that Sesotho-speaking children are able to comprehend and produce passives (including reversible and non-actional, long and short passives) from as early as age 2. 8 years.

As Crawford (2005, 2012) describes it, the fact that Sesotho-speaking children are able to produce early passives brings the validity of the Maturation hypothesis into question “because it would indicate that the language delays are not part of a human specific biological component, but a component of acquisition that varies cross-linguistically” (abstract).

Demuth (1989, p. 5) confirms this description by stating that:

English- and Hebrew-speaking children actually acquire the ability to form verbal passives early in language development, and that other nonmaturational factors influence its late acquisition, or that the acquisition of the verbal passive is not determined by maturation.”

Okabe and Sano (2002) also studied the passive in Japanese and found that the Japanese passive was later developing due to linguistic issues (participle *ni-*). They, therefore, oppose the ACDH as they posit that the reason for the delay is not maturational.

Crain et al. (1987, 2009) also refute the ACDH as they have found that three year old English speakers are able to understand the passive. Their explanation for their respondent’s early understanding of the passive was due to non linguistic features such as processing demands and frequency of the input.

After analysing eight Jakrata Indonesian children enrolled in a longitudinal study active and passive utterances Gil (2006, p. 223) concluded that the ACDH “has no bearing whatsoever” on Jakarta Indonesian. The first reason for this is that the ACDH requires A-chain formation to underlie NP-movement. However, in Jakarta Indonesian there is no rule of NP movement, in the constructions which mark the patient-orientated prefix *di-* or *N*. This is a similar finding to that of Inuktitut (Allen and Crago, 1996).

Instead of the ACDH, Gil (2006), therefore, proposes an “eclectic approach in which diverse and heterogeneous factors are acknowledged...” (p. 223). These factors include the fact

that early acquisition of the passive may be as a result of their structural simplicity or high frequency use in adult language.

Rubin (2009, p. 435) contends that “the concept of universal delay for passives is too stringent” for Brazilian Portuguese children. Instead Rubin has found that three to four year old children’s comprehension of the passive varies on a continuum from non comprehension to total comprehension of the passive. Rubin conducted this research on 48 children aged between 3.0 to 4.11 years. A picture selection task shown on a computer screen was the method of investigation.

Lau and Deen (in press) studied the very rare passive in three and four year old Cantonese subjects using a picture selection task with a puppet uttered statement. They found that these children understood both reversible and non-actional passives. These authors hypothesise that the reason is that the *by*-phrase in Cantonese is obligatory and, therefore, children don’t need to make any distinctions for length. Lau and Deen’s findings, therefore, also refute the ACDH.

2.9.1.(b). Cross-linguistic studies which support the ACDH

In Japanese, researchers such as Sugisaki (1999) suggest that there are two kinds of passives. The first kind are negative passives which are acquired early and do not require A-chain movement. The second categories of passives are acquired later and do require A-chain movement.

Sugisaki (1999) suggests that the results of Demuth’s (1989) study could be interpreted in the same way, as the verbs in Demuth’s naturalistic study could have been negative passives. Therefore, Sugisaki suggests that Sesotho data may actually support the ACDH.

2.9.3. Constructivist approaches

I find the constructivist approaches extremely compelling as they describe a correlation between age of acquisition of the passive and the frequency of the passive (Ambridge and Lieven, 2011). Cross-linguistic examples where the passive develops early because it is used often come from the Bantu language such as Sesotho (Demuth et al. 2009, 2010) and Zulu (Suzman, 1985, 1990). In addition, the passive develops early as it is used frequently in languages such as Inuktitut (Allen and Crago, 1996) and Tagalog (Segalowitz and Galang, 1978).

2.9.4 Usage-based theory

Tomasello (2008) suggests the usage-based approach to linguistics. This theory is based on the fact that there are

- Meaning in use
- Structure emerges from use (p.69).

The usage-based theory of language acquisition makes the fundamental claim that language structure emerges from language use. This applies at different levels such as individual words or the level of grammar. (Tomasello, 2008, p. 85).

As regards the passive and the usage-based theory Tomasello states that the function of the passive is to indicate that things happen to people who are not active agents.

2.10. Summary of the chapter

This chapter has provided a large part of the literature review which forms the basis for this study. Information regarding the extensive study of the passive and the variability of the results of different investigations has been provided.

Specific information in the chapter relates to the function of the passive, reversible, negative, non-actional, inanimate and impersonal categories of the passive. The length of the passive (long/short) and studies relating to this feature was then described.

After the historical perspective, a description of the passive construction in Setswana and other Bantu languages is given as a prelude to discussion of the cross-linguistic features of the passive. The changeability of the passive with regard to age and frequency is then described. The chapter concludes with a description of certain of theories underpinning the passive. Studies which support or refute the hypotheses are included.

Chapter 3

The effects of language disorders on the passive and methods of study

Failure to acquire language or a disruption of the language acquisition process is one of the most devastating and isolating events which can occur to a human being (O' Malley and Tikofsky, 1972, p. 3).

3.1. Language Disorders in childhood and adolescence

Language disorders are defined as “impaired comprehension and/or use of spoken, written and/or other symbol systems. The disorder may involve (1) the form of language (phonology, morphology, syntax), (2) the content of language (semantics) and/or (3) the function of language in communication (pragmatics) in any combination (American Speech-Language-Hearing Association (1993, p.2). The passive construction can, therefore, be affected by any problem with the form, content or use of language as well as any form of language disorder.

Portions of the previous chapter described the normal acquisition of the passive. However, Speech Language Therapists and researchers have to consider the effect of language disorder on the passive construction. In addition, methods that have been used to assess the passive will be described. These methods include language assessments used by speech language therapists as well as syntactic methods. The procedures used in these methods as well as studies conducted using them will be described.

3. 1.1. Hearing impairment and passive

Schmitt (1969) investigated 48 deaf subjects aged between 8 to 17 and found that subjects up to age 17 had difficulty understanding reversible passives in isolated sentences. Schmitt hypothesized that deaf subjects probably ignored the passive markers such as the *by*-phrase and the verb to be.

Power and Quigley (1973) also found that deaf children were ignoring the passive construction in a study they conducted on 100 prelingually, profoundly deaf children between

ages of 9 and 18. They proposed a hierarchy of difficulty for their subjects acquiring the passive. The most difficult passive constructions were short passives, followed by reversible passives and the least difficult was the non reversible passive.

These two studies were contradicted by the findings of a study conducted by McGill-Franzen and Gormley (1980). These authors used 36 deaf primary school children and assessed their abilities in isolation as well as in reading. The means of communication was either signing or total communication. There were two measures of comprehension. In the first, the participants were asked to “read a sentence and choose the picture that accurately represented the sentence event.” In the second “the experimenters introduced each passage by saying, “Read this story about ‘Little Red Riding Hood’ “ (p.939). The participants had to choose pictures from the active or the passive set. Therefore, the deaf readers had more access to more information from the text. They found that their subjects were better able to understand passives when it occurred in reading rather than isolation.

3.1.2. Specific language impairment (SLI) and the passive¹⁶

SLI is defined as the deviation in usual rates and/or sequence with which speech and language skills emerge (Irish Association of Speech and Language Therapists, 2007). SLI denotes the exceptional problems that some children have in learning and generalising certain language skills.

Van der Lely and Harris (1990) investigated the comprehension of reversible passives with a group of 14 SLI children aged between 4.10 – 7.10 and their age and language matched peers. Subjects had to act-out “semantically reversible sentences that varied in thematic content (transitives, locatives and datives) and in the order of thematic roles “canonical and non-

¹⁶ Demuth and Suzman (1997) conducted a case study of language impairment in Zulu. However, they did not examine the passive construction in this study.

canonical” (p. 101). In the first experiment SLI children performed significantly poorer than their peers. In a second experiment a picture-pointing task was used. The same results were found. Most of the SLI children had a “very high proportion of word order errors”(van der Lely and Harris, 1990, p. 101).

In 1996, van der Lely conducted a study to determine “the acquisition and underlying syntactic representation of passives sentences in a subgroup of 15 SLI subjects aged between 9.3 – 12.10 years”(p. 243) and three groups of 12 language aged controls in each group (ages 5, 6 and 7). These test sentences were also administered to 12 adults. The aim of the study was to determine the differences between the verbal and adjectival passive in English. The task was a four Picture Selection task. Children had to choose one of four pictures “where thematic roles normally assigned to the subject or object were reversed” (p. 243). The examples included:

- (i) Simple active sentences (e.g. *The girl mends the teddy*),
- (ii) Full passive sentences (e.g. *The teddy is mended by the girl*).
- (iii) Short progressive passive sentences (e.g. *The teddy is being mended*)
- (iv) Short ambiguous (potentially adjectival sentences (e.g., the teddy is mended)

The results showed that the SLI children performed the worst at interpreting transitive verbal passives. However, they also showed a preference for an adjectival interpretation of the ambiguous passive sentence” (van der Lely, 1996, p. 244).

Smith-Lock (1993) studied the passive abilities of a group of 17 SLI children (mean age 6.2) and 16 control subjects (mean age 4.0). The aim of the study was to determine whether subjects differed in their syntactic and morphological abilities when producing the passive. The passive task was a story telling elicited production task which the author adapted from Crain, Thornton and Marusugi (1987). Results indicated that there were no syntactic errors but many morphological errors characterized by over-generalization. Specifically the kind of errors that the

SLI children made were the repetition of the verb with the inflection used in the stimulus” (Smith-Lock, 1993, p. 136).

3.1.3. Williams Syndrome and the passive

Bartke (2004) investigated the passive acquisition with ten subjects with a mental age of 3.4 – 7.6 years who had Williams Syndrome. She used a picture selection task. She used active verbs as well as short and long reversible and inanimate¹⁷ passives. Her results showed that subjects with Williams Syndrome were delayed compared to their control peers. However, Williams Syndrome subjects did catch up to their peers by “a mental age of 5 years. Thus, Williams Syndrome children are able to analyse syntactic regularities” (Bartke, 2004, p. 346). The children performed better on the passive inanimate category.

3.1.4. Down Syndrome and the passive

Several authors have found that Down Syndrome adolescents do not understand the passive (Ring and Clahsen, 2005; Rondal, Cession and Vincent, 1998). Rubin (2009) conducted a study to determine if the previous authors’ findings were similar in Portuguese. She also assessed when there is no comprehension of the passive or whether the person understands passives as actives.

Rubin (2006) tested 10 Portuguese-speaking Down Syndrome adolescents and 10 verbal mentally age matched typical children on an act-out, picture selection and questions task. The results of her study showed that the passive is not consistently understood as active with Down Syndrome adolescents as well as by the typical children. The Down Syndrome participants:

comprehend long and short passive with action and non-action verbs at chance level. Often they comprehend short and long reversible passives with action verbs. They comprehend long and short passives with non-actional verbs at chance. Occasionally they comprehend long passive with non action verbs as active. We conclude that typical

¹⁷ Bartke refers to the inanimate passive as an irreversible passive.

children of the same mental age as adolescents with Down Syndrome are at a more advanced level of language development than they (Rubin, 2006, last page¹⁸).

3.2. Language disorders in adulthood : aphasia and the passive

Studies have been conducted to determine the area of the brain where active and passive sentences are processed. Yokoyama, Watanabe, Iwata, Ikuta, Haji, Usus et al. (2007) used functional magnetic resonance imaging (fMRI) to determine whether activation in Broca's area is "greater during the processing of passive versus active sentences"(p. 989) in healthy brains of 20 Japanese native speakers. Subjects had to read a visually presented sentence and identify the agent or patient in the sentence by pressing a button. Results showed that the processing of passive sentences elicited no greater activation than active sentences in Broca's area. However, passive sentences elicited greater activation than active sentences in the left frontal operculum and the inferior parietal lobule" (p. 989).

Yokoyama (2008/04/17 <http://www.lbc21.jp/TEMP/yoosi4yokoyama.html>) has found that it is not exclusively Broca's region which causes difficulties with comprehension of a passive sentence in lesion studies. They have found that the left parietal region is also involved in the comprehension of passive sentences.

As regards agrammatic patients' understanding of the passive, Grodzinsky (1984) postulates the Trace Deletion Hypothesis. This hypothesis claims that agrammatic Broca's aphasic clients' comprehension performance is normal for active reversible sentences but at chance level for passive reversible sentences. Therefore, in a sentence such as 'the boy was kissed by the girl' the subject is encoding the displacement of the object via a movement chain 'the boy was kissed ...by the girl'

¹⁸ Rubin does not provide page numbers in the translation of her chapter in the book edited by J. Barborosa and F. Oliveira (2006) that she kindly sent me.

The agrammatic representation and grammar was otherwise intact. Since the first NP's 'the boy' is not associated with a thematic position, the heuristic provides a thematic role, agent from the top of the list. The next NP is 'the girl'. However, the preposition 'by' is recognized as assigning agent theta to its complement so 'the girl's becomes the assigned agent. This situation causes problems for the agrammatic aphasic. There is one representation with two agent theta roles. Grodzinsky (1984) suggests that such a situation cannot exist, so the agrammatic participant must guess at the correct interpretation. This results in chance performance for tests of comprehension of reversible passives.

Various authors have found different results for passive abilities of participants with agrammaticism using different tasks. Caramazza and Zurif (1976) found that participants with Broca's aphasia were unable to understand thematically reversible object relative constructions when a sentence picture verification task was used. These authors referred to these clients as syntactic because they didn't generate a syntactic representation associated with the sentence they heard at all but rather relied on extra linguistic heuristic-devices, such as canonical word order and plausibility, to guess the meaning of the sentence.

Caramazza and Micelli (1991) found that participants with aphasia had difficulty in comprehending reversible passive sentences and assigning thematic roles onto noun phrases, though they could comprehend active and non-reversible passive sentences.

Luzzatti, Mondini and Semenza (2012) found that 5 out of 11 agrammatic clients had a specific deficit for passive movement when using a sentence comprehension task which used simple active and reversible sentences.

Faroqui-Shah and Thompson (2012) investigated participants with Broca and Wernicke aphasia's ability to produce active and passive reversible and non-reversible sentences with

varying amounts of lexical information provided. Their results revealed that both groups of individuals with aphasia had difficulty with passive sentence production. These problems were not helped by providing lexical cues. However, their performance improved markedly when auxiliary and past tense morphemes were provided with the verb stems. The analysis of the error patterns showed that there were differences between the Broca's and Wernicke groups. The authors hypothesise that the Broca's group may have problems due to difficulties retrieving relevant grammatical morphemes. However, Wernicke's subjects may have been unable to automatically access the passive sentence structure.

Conversely, Berndt, Mitchum and Haendiges (1996) claim that the generally held theory with regard to sentence comprehension in individuals with aphasia's failure is that there is a single pattern of relative performance on active and passive structures. This pattern of performance is reportedly characteristic of the understanding of all agrammatic speakers.

These authors evaluated agrammatic patients with aphasia who difficulty in comprehending semantically reversible active and passive sentences using a meta-analysis of published sentence/picture matching data. The findings of their review were in conflict with the generally held theory as they found that both active and passive sentences were comprehended no better than chance.

3.3. Language difference: English Second Language speakers and the passive

Jordaan (2011) conducted a study to determine the psycholinguistic processes which underlie the acquisition in English Second Language learners in Grades 1 to 3, for example, memory. This is one of the first studies of its kind in South Africa and meets the dire need for research mentioned in Chapter 1. One of the tools she used in her research was the Developmental Evaluation of Language Variation-Criterion Referenced Edition [DELV]

(Seymour, Roeper and de Villiers, 2003). One subtest of this instrument assesses children's comprehension of the passive. Her results indicate that there was a significant improvement on the understanding of passives from Grade 1 to Grade 3. Therefore, this test was sensitive to levels of proficiency.

3.4. Summary of passive knowledge of atypical language learners.

The section described above presents the results of studies conducted on participants who have different forms of language impairment in both children and adults. It shows that the poor results of comprehension and production of the passive, is common in a wide range of language disorders.

The results also indicate that the general lack of agreement and controversy found in studies conducted on the development of the passive construction in children, discussed in Chapter 2, also applies to studies conducted on non typical language development in children as well as adults. This kind of controversy is found with hearing impairment as well as aphasia.

3.4. Methods for assessing the passive

Allen and Crago (1996) claim that most passive acquisition in English has been assessed by means of comprehension tasks (see Appendix 2B). In comparison, production has rarely been examined “due to the rarity of passive structure in child English” (p. 115). This disparity in the research for comprehension and production tasks is an important aspect of the rationale of the current study.

3.5. Language assessments

The use of formal testing instruments in speech and language pathology derives from a simple concern within the profession – to provide an orderly, systematic, and convenient basis for tapping the language capabilities of a population of speakers (Wolfram, 1983, p.21).

When using a language assessment the Speech-Language Therapist should ensure it provides the following:

- A consideration of cultural factors as:

There are varying communication rules among different cultural groups... and diagnosis of a person with a communication disorder is more likely to be effective if one uses instruments, interpersonal interaction, testing and interpretation of findings that are consistent with the communication rules of the group from which the person comes (Taylor and Payne, 1994, p. 164).

- A specific set of instructions and stimuli to elicit the required behaviour (Bernstein and Tiegerman, 1989).
- A specific set of standards for scoring and interpreting the elicited behaviour (ASHA, 1989; Bernstein and Tiegerman (1993)
- Means and standard deviations derived from the raw scores (McCauley and Swisher, 1984).
- A sample test population, encompassing a general geographical area and standardised for a broad range of class, intelligence and dialect (Emerick and Hatten, 1979).
- A reliable and valid measure of language (Plante and Vance, 1994)
- A description of test qualifications (McCauley and Swisher, 1984).

Language assessments test a range of linguistic structures e.g. person, singular and plural and tense. Therefore, when passives are included in the test they are only reversible passives and generally, there are not more than two examples of each passive. Also, generally, only reversible passives with human agents are examined with the exception of the DELV and Patterned Elicitation Syntax Screening Test [PESST] which uses inanimate actors.

Table 3.1 shows the language assessments which do test the passive and also depicts how the passive is examined within each assessment. The number of stimuli, actors, verbs and tense used to assess the passive are also represented in the table. The methods used to test the

passive in these assessments helped me to determine the methods of testing that I should use in this study.

Table 3.1 Methods of assessing passives in language tests

Name and age	Number of Pictures	Number of Actors	Number of Verbs	Tense	Methods used to test
Clinical Evaluation of Language Fundamentals [CELF] Preschool 2 (Semel, Wiig and Secord, 2004) Age 3 – 6 years	3	2	2	Past and present progressive	Picture Selection
CELF 4 (Semel et al. 2003) Age 6 – 21	Not applicable	2	1	Past and present progressive	Sentence recall i.e. elicited imitation; Interrogatives and co-ordinating and subordinating clauses included sentence assembly
Diagnostic Evaluation of Language Variation [DELV] (Seymour, Roeper, de Villiers, 2005) Age 4 – 9	3	2 animate 1 inanimate	2	Past and present progressive	Picture Selection
Merrill Language Screening Test for school age children,					Elicited imitation

(Mumm, Secord and Dykstra, 1980) Age 5 years +					
Northwestern Syntax Screening Test [NSST] (Lee, 1969) Age 3 – 7.11 years	2 and 4	3	1		Picture Selection and delayed imitation
The Patterned Elicitation Syntax Test [PESST] (Young and Perachio, 1993) Age 3 – 7.6 years	3	1 animate and 1 inanimate	1		Linguistic slot-filling
Preschool Language Scale-4 [PLS] (Zimmerman, Steiner and Pond, 2011) Age 0 – 6.11 years	4	3	1	Was kissed	Picture selection through auditory comprehension
Preschool Language Scales-3 [PLS] (Zimmerman et al.1992) Age infancy to 6.5 years	4	2 (1 repeated) 3	1	Was kissed	Picture selection through auditory comprehension
The Rossetti infant-toddler language scale (Rosetti, 1990) Age infancy to 3 years	Not applicable				
Test for Reception of Grammar [TROG]	4	5 – 7	2	Is chased	Picture Selection

(Bishop, 1984 ¹⁹)					
Test of Language Development [TOLD-P4] (Newcomer and Hammill, 2004) Age 4 – 8.11 years	Sentence stimuli	2	1	Been helped chased Being given	Sentence imitation in the form of questions
Zulu Expressive Receptive Language Assessment [ZERLA] (Bortz, 1995) Age 3.9 – 4.2 years	Not applicable	1	3	Present	Responding to questions by pointing to objects on activity mat

It is interesting to note that the PLS-4 and 5 are a revised version of the PLS-3 (Zimmerman et al. 2002). The difference in the passive assessment is that the number of items has increased from three to four. In addition, passives are now only tested at age 5.0 – 5.6 and not 4.0 - 4.6 as was done in the PLS-3. One of the reasons for the revised edition is in order to improve the assessment's psychometric properties. However, further details are not available. There is now a fifth version of the PLS available. (Zimmerman et al. 2011).²⁰

Table 3.1 also shows that the Rossetti infant-toddler language scale was included but that the passive was not tested on this scale. The reason that I have included this scale is because it has implications for the results of my dissertation. If the passive is indeed found to be acquired

¹⁹ There is a second, electronic edition of the TROG now available [TROG 2] Bishop (2003).

²⁰ I have e-mailed the producers of the test to find out additional reasons for these changes but did not receive a reply.

early in Setswana then a Setswana infant-toddler language scale would need to include test items for the passive.

It is also interesting to note that the TELD, [2nd Edition] (Hresko, Reid and Hammill, 1991) which tests children age 3 - 7.11 years has not tested the passive. The reason for this could be that the passive is such an infrequently used construction in English. However, again, if the passive is found to be acquired early in Setswana then a test similar to the TELD that is devised in Setswana would have to include items in this language.

When looking through this table it is obvious that the methods used to test passives in children is variable. The test that most closely resembles my needs is that of the TROG. The reason for this selection is that the TROG has four pictures which reduces the possibility of a chance response as compared to a two Picture Selection task. The permutations of the agents and patients suit my needs best, for example, one of the pictures is a different verb but same patient and agent. The stimuli to be used in my research are thus loosely based on the TROG with some revisions as can be seen in the next chapter (4.10.2).

3.5.2. Comprehension tasks

3.5.2. (a). Act-out tasks

The Act-out task was first used to study children's syntax by Chomsky in 1969 according to Goodluck (1998). This task has been used to investigate the passive by authors such as Bever (1970), Maratsos (1974) and Sudhalter and Braine (1985). De Villiers and De Villiers (1973) conducted one of the most influential studies using the act-out task according to Deen (2011). They tested 33 children using passive or active prompts. The results showed that children's responses remained around 30% correct for passive sentences and did not show any developmental trend from age 19 months to age six.

Act-out tasks are very useful for children above three years old. The advantages of Act-out tasks is that they “are easy to administer and score, and they are inexpensive and generally fun” (Goodluck, 1998, p. 153). Further, they have also been found to be useful in crosslinguistic experiments. The participants of my study examining the acquisition of the passive in Zulu/English and Sesotho/English bilinguals showed that the participants performed successfully on act-out tasks (Bortz, 1998).

3.5.2 (b). Picture selection tasks

Another form of assessing comprehension is picture selection tasks. Picture selection tasks are described by Gerken and Shady (1998). Picture selection tasks will be used to evaluate the participants’ comprehension of the passive. According to these authors the picture selection task is one of the methods most often used to assess children’s linguistic abilities.

Many authors have used picture selection tasks in English and cross-linguistically to examine children’s passive language abilities for example, Crawford [Sesotho] (2008, 2012), [English] Gordon and Chafetz (1990), Hirsh and Wexler (2006) Maratsos et al. (1985), Pierce [Spanish] (1992), Sugisaki [Japanese] (1990) and Terzi and Wexler [Greek] (2002) (as can be seen in Appendix 2.B).

The following reasons have been proposed for using this task:

- It is a very useful task in situations where subjects don’t produce particular linguistic forms e.g. the passive in English.
- In addition, Gerken and Shady (1998) list four goals for the comprehension task i.e.
- 1) To determine if subjects can understand linguistic contrasts particularly if they don’t use these in their own speech.

- 2) To determine the developmental sequence in which subjects understand the specific linguistic form e.g. active versus passive sentences.
- 3). To determine the developmental relation between children's expression of a certain form and their understanding of it.
- 4). Inference of the nature of children's morphosyntactic representations by studying the children's errors (p. 127).

Gerken and Shady (1998) consider the number of pictures to use when using the picture selection task. They claim that using two pictures "means that chance performance is 50%. Therefore, many participants as well as pictures need to be used in order to reliably obtain chance performance in 50% of children." This problem of only using two pictures was certainly true in the results of Demuth et al.'s study (2009; 2010) and caused it to be a limitation of the study as was discussed in Chapter 2.

Using four pictures reduces chance performance to 25% (Bishop, 1984; Gerken and Shady, 1998). Therefore, the tester is able to detect 'non random behaviour'. However, they do warn that creating three equally plausible distracter pictures is not always possible. If the distracters are not equally plausible then deciding what constitutes chance performance is very difficult (p. 137 – 138).

3.5.2. (c). Felicity conditions – third person foil

O' Brien et al. (2006) conducted a seminal experiment to determine whether adding an extra character would improve children's understanding in a Truth-Value Judgement Task of long actional and non-actional passives. The second aim of their experiment was to discuss why the addition of a character "representing a contrast for the agent/experience might be particularly

helpful for children, even in a test of comprehension” (p. 443). They cite an example from Crain and Fodor (1993) which created a felicitous condition.

e.g. **Adult:** See, the Incredible Hulk is hitting one of the soldiers. Look over here. Darth Vader goes over and hits a soldier. So Darth Vader is also hitting one of the soldiers. Ask Keiko which one.

Child: Which soldier is getting hit by Darth Vader?

Crain and Fodor (1993, p. 20) noted that the “contextual contrast with another agent (the Incredible Hulk) may tend to favour the passive stylistically.”

The hypothesis for O’ Brien et al.’s (2006) experiment was to determine whether 4-year-old children would perform well on comprehension of long actional and non-actional passives when an extra character is added to satisfy a felicity condition with the use of a *by*-phrase. 11 subjects performed a truth value judgement task. “It was made explicit that, while the extra character was a plausible agent/experience s/he was not the relevant one referred to in the *by*-phrase” (p. 444). The results showed the subjects performed well on the task when a felicity condition on the use of long-passives is used on a truth value judgement task.

A second experiment was conducted to see if 3-year olds would be able to perform better on “comprehension of long actional and non-actional passives when an extra character is added to satisfy a felicity condition on the use of a *by*-phrase, as compared to a condition without this extra character” (p. 444). In Condition 2 of their experiment an extra character was added while in Condition 1 there was no added character. The reason that this study was groundbreaking is that results showed significantly better responses when the additional character was added. This study is one of the first to show that English speaking children as young as three are actually able to understand the passive.

3.5.2.(d). Consideration of Comprehension tasks for my study

Both act-out and Picture Selection tasks would be useful comprehension tasks for my study. The reasons are two-fold for act-out tasks. First of all I think they are suitable for my intended participants as act-out tasks make use of objects that are more familiar to them than with pictures. Secondly, as mentioned above, I have used them successfully in a previous study with participants of a similar age (Bortz, 1998).

However, Picture Selection tasks are extensively and successfully used in language assessments and are, therefore, of great value. The results of the study by O'Brien et al. (2006) also provide an opportunity to examine whether children's performance improves with the addition of a third character in the act-out task.

3.5.3. Production tasks: Elicited Imitation²¹

Allport (1924) was the first to suggest that language was acquired through an imitative process. Elicited Imitation or sentence repetition is defined as repetition of a verbal stimulus (Nicolosi, Harryman and Kresheck, 1989). Prutting and Connolly (1976, p.415) define Elicited Imitation as "those imitations which occur when a child responds to an examiner's request to 'say what I say' and repeats a model sentence or phrase"

Elicited Imitation provides "overt, direct evidence of child's grammar construction for particular targeted aspects of grammar" (Lust, Flynn and Foley, 1998, p. 63). The sentences that the child says are according to "the rule that the child has for the particular structure "and not according to adult rules" (Lust et al. 1998). During Elicited Imitation tasks the child reduces the imitation to fit her/his own linguistic knowledge of a particular linguistic principle (Mumm, Secord and Dykstra, 1980).

²¹ The terms elicited imitation and sentence repetition are used interchangeably (Clay, 1971)

Original elicited imitation studies were carried out to determine whether imitation of sentences works through comprehension or is the mere rote repetition of an acoustic image, produced regardless of whether the subject has understood its meaning or not (Vinther, 2002, p. 57).

Historically, Elicited Imitation tasks were a powerful tool that was both used to inform about the theory of transformational grammar (Menyuk, 1963) as well as a method of assessing language (Slobin, 1968). As regards Elicited Imitation, Menyuk (1963) hypothesized that from very young “language is not an imitative function and that the child has indeed, the grammatical capacity for generating an infinite number of sentences of the language...” (p. 429).

In order to test this hypothesis Menyuk (1963) conducted a study to examine:

the hypothesis that children have incorporated the generative rules of their grammar and are able to understand and produce sentences in accordance with these rules and to extend systematically their behaviour without additional instruction....” (p. 438).

She studied 14 children aged from 2.10 months to 3.8 years as well as 50 kindergarten children. A short reversible passive sentence was one of her stimuli. 10 of the participants in each age group scored correctly on the passive sentence, which was a score that did not achieve significance. However, generally the results of Menyuk’s study showed “that children, even at the age of 3, have incorporated the rules of the grammar and are able to understand and produce sentences” using the rules of Universal Grammar (UG).

Elicited Imitation tasks (Lust et al. 1998) can be used to assess children’s expressive knowledge of the passive. According to Lust et al. (1998, p. 56) Elicited Imitation allows “researchers to assess children’s knowledge of precise grammatical factors or “precise testing of children’s knowledge of specific hypothesized grammatical factors involving UG” (p. 59).

Other experiments have been performed to examine children’s passive abilities on elicited imitation tasks. An example is that Baldie (1976) found that 3 – 8 year old subjects produced truncated and inanimate passives equally. Reversible passives began developing poorly

but by 8 years “had surpassed the two other passive forms.” Baldie also concluded that in the acquisition of the English passive, imitation precedes comprehension and comprehension precedes production.

Budwig (1990) also conducted a study using Elicited Imitation. She tested adults as well as ten 4 year old subjects. The adult subjects scored 100% on the tasks and the children 97%. The pattern of errors showed that children mismatched “get” and “be” passives. Results of a study conducted by Lempert (1990) showed that 14 subjects imitated full and truncated passives.

A combination of a semi elicited production task was used on Spanish-speaking 3.5 – 6 year old children (Pierce, 1992). Results indicated that, as predicted, children made more errors in s-v order than in v-s order. (In Spanish there are multiple constructions for verbal passives. There was also significant developmental improvement in v-s order).

Verrips (1996) pilot tested an elicited imitation task for the impersonal passive in Dutch. She found that 51% of 24 4 – 7 year old children performed successfully on the Elicited Imitation task.

Speech Language Therapists also use elicited imitation tasks in languages assessment. Mumm et al. (1980) claim that Elicited Imitation has been used repeatedly as a valuable tool for language assessment. The aim of using elicitation during testing is for the child to “reduce the imitation to fit her/his own linguistic knowledge of a particular linguistic principle. Tests such as the Patterned Elicitation Syntax Screening Test [PESST] (1993) assess syntactic structures using a delayed imitation task.

Young and Parachio (1993) were some of the first test authors to utilize a delayed imitation device in testing. The method they used to assess children was to have them listen to three consecutive modelled sentences with the same syntactic pattern but different vocabulary

“while looking at pictures that depict these sentences.” The child is then required to describe all three pictures to the examiner (p. 3). Young and Parachio (1993) describe delayed imitation as a procedure which requires the child “(1) to process the information through his or her meaning system, (2) perceives the rule, and (3) repeat the sentences with the aids of the pictures.” The important point is that the sentences that the child says are according to “the rule that the child has for the particular structure” and not according to adult rules.

3.5.3.(a). Versatility of Elicited Imitation tasks to differentially diagnose language disorders

A number of studies have been conducted to determine whether Elicited Imitation tasks are useful in diagnosing language disorders. Examples include Conti-Ramsden, Botting and Faragher (2001). These authors conducted a study on 160 11 year old children with SLI. The children had to complete 4 tasks one of which was an elicited imitation task, which had not previously been used as a marker to identify SLI. The elicited imitation task was found to be the most useful of all the tasks and could identify SLI effectively.

Redmond, Thompson and Goldstein (2011) also used an Elicited Imitation task together with 3 other tasks to differentiated between 60 7 – 8 year old children to differentially diagnose among SLI, Typical Development and Attention-Deficit/Hyperactivity. The results showed that the Elicited Imitation task and the Test of Early Grammatical Impairment (Rice and Wexler, 2001) task were equivalent to using all 4 tasks

Thirdly, Riches, Loucas, Baird, Charman, Simonoff (2010) successfully used an elicited imitation task to determine if a differential diagnosis could be made between SLI and autistic adolescents. Elicited imitation tasks proved to be a successful task in showing that adolescents with SLI have more severe syntactic difficulties than their autistic plus language impairment peers. The reason for this could be due to short-term memory limitation.

3.5.3.(b). Criticisms of Elicited Imitation tasks

Prutting and Connelly (1976, p. 412) conducted an extensive and “critical review” about the effectiveness of “elicited imitating in clinical assessment and remediation procedures” as well as a description of experimental studies such as those of Menyuk (1963) previously described.

Elicited Imitation in assessments are used “for the purpose of making judgements about syntactic development in children” (Prutting and Connolly, 1976, p. 419). They cite the example of the NSST, described above, and quote Laura Lee (1971) who based the NSST on the notion that the technique of sentence repetition being used successfully in psycholinguistic research. Prutting and Connolly’s criticism of using Elicited Imitation for assessments such as the NSST is that “the use of imitation in psycholinguistic research does not necessarily mean that imitation may be an effective assessment tool for the language-delayed child” (p. 419). In addition, elicited imitation tasks could be related to:

such intervening variables as memory, sentence length, stress, components or rules of syntax. Elicited imitation alone may underestimate, overestimate or accurately describe the child’s language performance (Prutting and Connolly, 1976, p. 422).

Therefore, the results of these authors’ literature review showed that the effectiveness of elicited imitation cannot clearly be shown.

My belief is that while there may be limitations to elicited imitation tasks, they are very useful for my intended population. As I discussed in Chapter 1 rote learning is a method of teaching commonly used for children in disadvantaged preschools and schools in South Africa. I also think that Elicited Imitation tasks may have resurgence due to the fact that imitation forms the basis for priming tasks. This foundation is very important considering that priming studies have found that children have the ability to produce the passive earlier than originally found.

3.5.4. Priming tasks

3.5.4.(a). Definition

Deen (2011, p. 21) defines priming as “a process whereby the presentation of one stimulus (called the prime) allows faster and more accurate reaction to a second, related stimulus (called the target).” Messenger et al. (2009) describes “syntactic priming as the tendency to repeat the syntactic structure of an utterance used in previous discourse” (p. 270).

3.5.4.(b). Perspective

Priming is not a new technique as Rayner and Prosansky used this task as early as 1978. However, since 2007 priming has seen resurgence with studies indicating that children as young as three are being able to produce passive sentences using priming techniques, providing that certain limitations are in place. Authors such as Shimpi, Gamez, Huttenlocher and Vasilyeva (2007) conducted priming studies as they found that elicited production tasks did not provide information about children’s abilities to “possess abstract syntax” (p. 1134).

Priming is also a technique that is related to elicited imitation as according to Messenger et al. (2009, p. 207) priming is a “structural repetition” as the example below shows:

... thus a speaker is more likely to produce a passive sentence after hearing a passive sentence prime such as (2a), than hearing an active sentence prime such as (2b)

(2) a The pig is being washed by the farmer

b The farmer is washing the pig.

K. Deen (personal communication, December 19, 2011) says that there may be a link between elicited imitation and priming, if elicited imitation is considered as “a kind of easy priming task.” When considering a possible relationship between priming and elicited imitation the definition changes so that the target is the exact same thing as the prime and not two stimuli

i.e. that the prime is a passive and the target is not just a type-equivalent, but in fact a token-equivalent.

Savage, Lieven, Theakston and Tomasello (2003) conducted priming studies which showed that three to six year old children were more likely to produce passives, if they had been used by the researchers. Therefore, again repetition plays a role in priming studies.

3.5.4.(c). Priming studies

Shimpi et al. (2007) used a syntactic priming task with three and four year old children to describe drawings that “depicted transitive relations” (p. 1334). They assessed 3 and 4 year old children using 3 different experiments and found that three year olds used more transitive sentences after they had heard these primes.

For experiment 3, the 3 year olds had to “repeat the experimenter’s priming sentence immediately after hearing it and were then asked to describe a novel picture” (p. 1341). The results of this experiment showed that the 3 year olds, and in fact one 2.8 year old, had a higher response rate for passives after they had heard passive primes. These authors thus postulate:

that exposure and repetition may play an important role in a very young children’s access to and use of general syntactic information, perhaps a larger role than older children. We conclude that 3-year-old children do, in fact possess abstract syntax, but this abstract syntactic information is not easily accessible. Thus, we argue that previous findings that showed little productive evidence of 3-year-olds’ possession of abstract syntax need to be re-evaluated (p. 1342).

The results of this study, therefore, also show what an important role repetition plays in priming tasks.

Messenger et al. (2009) also conducted priming studies which resulted in 3-4 year olds producing full passive sentences.

Bencini and Valian (2008) conducted their passive priming study on 53 children aged between 2.11 – 3.6 years. Their results also showed that their participants had knowledge of

inanimate passives. However, the priming effect was weak for reversible sentences. Non-actional passive verbs were not assessed as they were hypothesized to be problematic for the children.

3.6.3. Elicited Production Tasks

Thornton (1998, p.77) defines elicited production tasks as “an experimental technique designed to reveal children’s grammars by having them produce particular sentence structures. The syntactic structures of interest are elicited in the broader context of a game. The game is ... designed to be uniquely felicitous for production of the structure being investigated.” The elicited production task has been used in linguistic assessment for over 40 years (Thornton, 1998). As regards testing of the passive, one of the greatest advantages of an elicited production task is that “it enables the experimenter to evoke sentences corresponding to complex syntactic structures, ones that occur only rarely, if at all, in children’s spontaneous speech (and possibly in adults speech as well” (Thornton, 1998, p. 78).

Due to the fact that the passive is a difficult structure to elicit, very few studies have been conducted. As Appendix 2.B shows, some of the researchers who have conducted Elicited Production tasks are Baldie (1976), Babyonshev et al. (2002) and Verrips (1996).

3.7. Summary of chapter 3

The main issue described in this chapter is that the comprehension and production of the passive is a sensitive measure that has been used to identify language impairment. To this end, the chapter began with a description of how the passive is affected by different language disorders in both children and adults, and it is sensitive to hearing impairment. The final section of Chapter 3 dealt with various techniques of examining comprehension and production of the passive. I used all these techniques either in the pilot or main study of my dissertation as will be seen in Chapter 4.

Chapter 4

Experimental Background: Methods

4.1. Aims

The main aim of this study was to investigate the understanding and expression of the passive construction by 2.6 to 5.5 year old Setswana-speaking children.

The specific aims were

4.1.1. To describe the development of the passive in 2.6 to 5.5-year old Setswana-speaking preschoolers.

4.1.2. To examine the children's understanding and production of the reversible, negative non-actional, inanimate and impersonal verbal passive categories.

4.1.3 To assess the children's capabilities in terms of the length of passives, i.e. short and long passives.

4.2. Hypotheses

The main hypothesis for this study is that Setswana-speaking children will develop the passive construction early in their language acquisition. This hypothesis is based on the fact that the passive has been found to develop early in Bantu languages such as Sesotho (Demuth et al. 2009, 2010), Demuth (1989) and Zulu (Suzman, 1985, 1987 and 1991). However, Crawford's (2012) results that Sesotho-speaking children did not acquire the passive early must be considered.

The hypothesis related to the passive categories is that there may be differences in responses for the various categories, for example the participants may score poorly on non-actional passives as has been found in the literature (Crawford, 2012; Fox and Grodzinsky, 1998). However, they may score the best on the impersonal category as Cole (1955) claims that

impersonal passives are one of the reasons that the passive is a frequently used construction in Setswana.

It is difficult to determine the hypothesis relating to length as the results of the research related to this variable are contradictory in the literature, for example, Armon-Lotem et al. (in press) found that in 8 out of the 11 languages studied, children performed better on short rather than long sentences. However, Maratsos and Abramovich (1975) have found that children have equal abilities on short and long passives.

4.3. Design

Swanepoel (2007, p. 11) recommends that when conducting research in South Africa, in order to address previous inequalities “a holistic or eclectic approach which combines positivist and phenomenological research paradigms and applies both quantitative and qualitative methods” should be used. This recommendation is reiterated by both Alant (2007) and Singh (2007) who state that “both quantitative and qualitative modes of research are umbrellas that accommodate a range of research methodologies within their ambit” (p.18).

Therefore, in this study the “holistic and eclectic approach” suggested by Swanepoel, (2007, p. 11) was used. A cross-sectional descriptive design was employed as a quantitative method and service-learning research as a qualitative method.

4.3.1. Cross sectional design – quantitative method

A cross-sectional design was essential for this study as according to Bordens and Abbott (2005) different participants from a number of age groups can be selected. Cross-sectional designs use different groups of subjects “who differ in the variable of interest, but share other characteristics such as socioeconomic status, educational background and ethnicity” (Trochim,

2006). Thus, in this study, three different age groups were utilised as can be seen in section 4.5.2 of this chapter.

4.3.2. Service-Learning – qualitative method

4.3.2.(a). Definition of Service-Learning

Service-Learning is a pedagogy which provides an opportunity to learn how to learn – to collect and evaluate data; to relate seeming unrelated matters and ideas, and investigate a self-directed learning including inquiry, logical thinking and a relation of ideas and experience. A transference of learning from one context to another that will allow for the opportunity to reflect, conceptualise and apply experience-based knowledge (Brevard Community College, The Power, July, 1994).

A variation of Service-Learning is an additional design being used in this study. Why Service-Learning is considered to be a permutation is due to the fact that generally it is a methodology used either with volunteer students or as a course component (Kraft and Klug, 1994). The data that comes from service-learning is the same as any other form of qualitative research. In this study research assistants were not students and were paid for their services. However, the researcher believes that using this permutation of Service-Learning is an excellent method of conducting research for the South African population. The reason is that it is a useful method to use “when considering the nature of the relationship between practice and research” (Kathard et al. 2007, p. 6) particularly in populations who live in poverty as research inadequately supports the needs of people in societal “black holes” (Suludo, 2001). This research is being conducted on a poverty stricken population.

Some of the key features of Service-Learning are the use of reflection and unintended consequences. Reflection is very useful as it can add qualitatively to the findings by the report of impressions noted in reflection journals. Consideration of unintended consequences is helpful in evaluating and reporting on findings that were not expected but add value to the study.

4. 4. Ethical Considerations

Ethical clearance was obtained from the Human Research Committee (Medical) of the University of the Witwatersrand protocol number: HO 90214 (Appendix 4A). In addition, informed consent was obtained from the principals (Appendix 4B) and parents/legal guardians (Appendix 4C). Due to the fact that the participants in the study were under the legal age of eighteen, it was necessary to obtain informed consent from their parents/legal guardian. A separate informed consent was obtained from the parents/legal guardians giving their permission for their children to be audio and video recorded (Appendix 4D).

The information sheets and consent forms included details regarding the general purpose of the study and the voluntary nature of participation was emphasized. All the informed consent and information sheets were devised in English and then translated into Setswana. In addition, confidentiality and anonymity was assured, and the information sheet stated that the researcher would be happy to answer any questions should these arise.

An ethical consideration in this research was that intervention was not withheld from children identified as language-impaired. Mechanisms for appropriate referral were, therefore, put in place. The research assistants did this by informing the parents and teachers of the children identified as at-risk for language impairment. In addition, these language-impaired children were referred to the Mmametihake Clinic of the Speech Therapy Department in Mpumalanga. This was the closest speech therapy facility for the children in this study (Appendix 4E).

4.5. Participants

4.5.1. Criteria for selection of children

All the children were required to be healthy and to present with no obvious physical, cognitive, hearing or visual impairments that may have impacted on language development.

If a child did not complete the experimental tasks her/his responses were excluded. A sufficient number of participants were tested so that at least 16 completed tests in each of the three age groups were obtained. A minimum of 16 subjects were required in order to ensure statistical significance. Information about the children's language abilities was obtained from the parent and teacher reports (Appendix 4F and 4G).

- The children were living in Pankop, to ensure homogeneity in environment. Pankop is situated in the Chief Maluke Trust in Mpumalanga Province of South Africa.
- Children were first language speakers of Setswana.
- Child participants attended Setswana speaking crèches in Pankop.
- Discharge from the ear and gastroenteritis have been identified as “at risk” medical factors for language impairment in the South African population (Penn and Segal, 1982).

Therefore, both teacher and parent reports enquired about these conditions for the child participants.

4.5.2. Description of the Children

Table 4.1 shows the number of children who were assessed on each of the Comprehension and Production Tasks. As is evident in Table 4.1 a total of 114 children participated in the study.

Table 4.1 Number of Participants

Age	Number of Children: Comprehension 2 characters task, Comprehension 3 characters task and Elicited Production tasks	Number of Children: Elicited Imitation task	Description of Age Group
2.6 – 3.5 years	18	15	Group 1
3.6 – 4.5 years	18	20	Group 2
4.6 – 5.5 years	26	17	Group 3
	n = 62	n = 52	

4.5.3. Languages spoken by the children

Table 4.2 Primary Home Languages spoken by the children

Sotho Languages		Nguni Languages		Xitsonga/Shangaan	English
Setswana	Northern	isiXhosa	Ndebele	6.89%	1.74%
79.3%	Sotho	0.862%	2.58%		
	8.62%				

One of the criteria for participants' selection was that the participants be first language Setswana-speakers. Indeed the vast majority of the children spoke Setswana as a first language (79.3%). However, linguistic diversity is common in Africa (Agheyisi, 1977) and South Africa has a very complex sociolinguistic reality (Reagan, 1992). Therefore, 21.7% of the participants were not first language Setswana-speakers as Table 4.2 shows. However, they were proficient in Setswana. However, they were all proficient in Setswana as determined by their teachers.

Question 10 of the teacher report (Appendix 4G) asked if the child's language was like that of "other children in her/his class?" If the child was not proficient in Setswana the teacher would have indicated this in the teacher report. Children who were not proficient in Setswana would then not have been included in the study.

8.62 % of the children spoke Northern Sotho/Sepedi. This language also belongs to the Sotho group of languages and, therefore, is mutually intelligible with Setswana. 6.89% of the children spoke Xitsonga. 2.58% of the children spoke Ndebele and 1 child spoke isiXhosa (0.862%). Thus 3.44% of the children spoke an Nguni language. Two children were first language English speakers (1.72%).

Setswana was the language of instruction in the 3 crèches that the children attended. It should also be noted that there are many different dialects of Setswana spoken in the Pankop area (South African Languages Setswana [n.d]).

4.5.4. Information about the children gained from Parent Report

The majority of the mothers were unemployed. However, some were employed in professions as diverse as cleaners, secretaries and salesladies. Five of the mothers called themselves 'practioners' which are traditional healers.

Information about fathers was often omitted on the parent questionnaire. When this question was completed it indicated that the fathers were also mostly unemployed. Three fathers were deceased. Other fathers were employed as managers, petrol attendants (two) and a military policeman (1).

Most of the children in this study lived with their grandmothers. The grandmothers' occupation was listed as unemployed or pensioners. The information provided by the parents is

in line with the conditions of peri-urban areas where poverty and unemployment is rife (Rakodi, 2005).

4.5.5. Information about the children gained from Teacher's Report

Teacher report indicated that most the children 79.3% were first language Setswana-speakers. The majority of children did not speak English.

Teachers reported that 7% of the children did not seem to hear like other children in the class. Four percent of children were reported to not understand like other children in the class. No teacher gave an explanation of what they thought the problem with the child's language was. All children that the teachers had described as having a problem were referred to the closest Speech and Hearing clinic. They were excluded from the study though.

4.5.6. Adult verifiers

Thornton (1998) demands that prior to testing "it is important to take the step of establishing that adults produce the target structures in the experimental context before testing the target population in young children" (p. 85). Adult verifiers were, therefore, entered into the study.

4.5.7. Criteria for selection of adult verifiers

- Adults were to be first language Setswana-speakers.
- Adults were to be resident in Pankop.
- The adults were required to be healthy and to present with no obvious physical, cognitive, hearing or visual impairments that may have impacted on language performance.
- Adults were required to be literate.

No questions were asked about if they grew up in this area, if they had lived elsewhere and what other languages or dialects they spoke. This information should be obtained in future research.

4.5.8. Description of adult verifiers²²

Twelve adult first language Setswana speakers were the verifiers for this study. They were aged between 45 – 75 years old. The adults were either unemployed or pensioners living in an old aged home in Pankop. The responses of one of the verifiers were discarded due to the respondent being inebriated.

Adults were tested using the materials for all tasks i.e. Comprehension of 2 and 3 characters, Elicited Production and Elicited Imitation. The same group of adults was used for all tasks. Adults were required to complete the protocol aimed to determine their knowledge of the passive (Appendix 4 H). This protocol was completed with the help of the research assistants when required.

4.5.9. Research assistants

4.5.10. Criteria for selection of research assistants

Tester bias is a strong influence on a child's language ability (Labov, 1979; Taylor and Payne, 1983). Therefore, the research assistants were chosen according to the following criteria:

- Research assistants were to be first language Setswana speakers.
- Research assistants were to be residents of the Pankop area. This criteria was to ensure that their sociolinguistic environment was consistent with that of the children.
- Research assistants had to have the minimum of a National Senior Certificate (Matriculation) in order to be able to administer and score the test battery.

²² The terms adults and adult verifiers are used interchangeably.

4.5.11. Description of research assistants

Three research assistants participated in this study. All the research assistants had been educated and lived in the Pankop area.

The research assistants' tasks included assisting in devising all the pilot and experimental materials, particularly the translations. Research assistants also administered all experimental tasks. They then transcribed the data and coded and scored it.

The research assistants worked in different permutations on the various experimental tasks, for example for the production tasks, one research assistant administered the tasks, (the examiner) while a second transcribed the child's responses on-line. Immediately after testing was completed for the day, 'the examiner' and the third research assistant transcribed, coded and scored the data. The three research assistants rotated through the different tasks.

In addition, as this research utilised a service-learning methodology, research assistants were required to keep reflection journals (Machtmes et al. 2009).

4.5.12. Role of the researcher

Singh (2007) comments that the demographic profile of the Speech Language Therapy profession and its researchers in South Africa are predominantly of "White and Indian descent with relatively fewer indigenous African and Coloured researchers" (p. 19). In addition, due to the lack of these researchers, she suggests that it may be permissible for White researchers to conduct vital research if "the researcher demonstrates awareness of and sensitivity towards the pertinent characteristics of participants and their communities" even if they do not "match the culture and language of the researcher and the participant." Like previous research that the researcher has conducted, this study was devised taking all these issues into account. In addition,

in order to prevent tester bias (Taylor and Payne, 1983) the researcher observed testing and did not take an active part.

4.6. Setting

The participants were tested at three pre-schools in Pankop, Chief Maluke Trust in Mpumalanga Province of South Africa. Pankop is a semi rural/ peri urban area. Peri urban areas form “belts of non-urban land” bordering cities. Usually they are neither fully urban nor rural but “form a mosaic of often incompatible and unplanned SES” (periurban.org.au/index.htm). However, in South Africa peri urban areas are beset by massive poverty (Cook, 2001).

The crèches usually consisted of only one or two class rooms separated by a flimsy division. None of the crèches had enough children’s tables and chairs. Children either sat on the floor or on a carpet as can be seen in Appendix 4I. All crèches had kitchen facilities and lockers to store the children’s belongings. No crèche had water-borne sewerage. The children were taught through rote-learning and singing. There were very few books and materials such as paper and crayons. There were no toys.

4.7. Research instruments

The following instruments were employed:

4.7.1. Parent report (Appendix 4F)

Dale (1991) believes that parent report provides valuable information on early child language development. Parents/guardians of each of the children were asked to complete a questionnaire in order to obtain the following information:

- Biographical information such as date of birth of the participant.
- Languages that the child and parents/guardians spoke.
- History of speech and hearing problems and health factors such as ear infections.

4.7.2. Teacher report (Appendix 4G)

The main aim of the Teacher Report was to determine whether the children functioned like other children in the class. Specific information was obtained about:

- Biographical information which included the gender of the child.
- Languages that the child spoke, and if s/he spoke English.
- Any speech, language or hearing problem.

4.7.3. Adult verifiers' knowledge of the passive in Setswana and diary of use of the passive (Appendix 4H)

A questionnaire was devised to determine adult verifiers' knowledge of the passive in Setswana. Questions included the following:

- Adults' home language and other languages spoken
- Definition of the passive
- Examples of passive questions
- Verifiers' use of the passive. They were to note down their use of the passive in a diary form provided.

4.7.4. Research Assistants' Service-Learning Reflection Journal (Appendix 4J)

The aim of the journal was for the research assistants to provide a way to express "thoughts and feelings" (Bringle and Hathcher, 1999, p. 113) about their experiences while conducting this research. Machtmes et al. (2009, p.157) consider the journals important in order to "add to current knowledge bases and broaden their thinking."

4.7.5. General Principles for Comprehension and Production Tasks

4.7.5.(a). Verbs and tense

Table 4.3 shows all the verbs used in this research.

Table 4. 3 Verbs²³ used in all Passive Comprehension and Production Tasks

Reversible Passives	Negative Affect Passives	Non-actional Passives	Inanimate Passives	Impersonal Passives
			Anti Pragmatic Passives	
<i>latswitswe</i> `is being licked`	<i>ragiwe</i> `is being kicked`	<i>boniwe</i> `is being seen`	<i>bofiwe</i> `is being tied`	<i>go na le (coke) e e tshediwang</i> `there is being poured (coke)`
<i>sunuwe</i> `is being kissed`	<i>ngapiwe</i> `is being scratched`	<i>Nkgelwa</i> `is being smelled`	<i>latswiwe</i> `is being licked`	<i>go na le (tee) e e diriwang</i> `there is being made (tea)`
<i>atliwe</i> `is being hugged`	<i>bethiwe</i> `is being hit`	<i>ratiwe</i> `is being loved`	<i>pentiwe</i> `is being painted`	<i>go na le (nama) e e apeilweng</i> `there is being cooked meat`
<i>jesitswe</i> `is being fed`	<i>notiwe/notilwe</i> is being pinched`	<i>utlwe/utliwe</i> `is being heard`	<i>gogiwe</i> `is being pulled`	<i>go na le (pina) e e oplewang</i> `there is being sung (a song)`
		Non-actional negative	Pragmatic Passives	
		<i>tlhogilwe/tlhoiwe</i> `is being hated`	<i>ragiwe</i> `is being kicked`	
			<i>tlhatswiwe</i> `is being washed`	
			<i>jewe</i> `is being eaten`	
			<i>pentiwe</i> `is being painted`	

Efforts were made not to repeat any verbs from each category. Verbs were only repeated in the inanimate category.

The verbs used in this study were present progressive tense. Researchers such as

²³ The active versions of the passives were not assessed. In future research I would recommend that both the active and passive versions of the verbs be assessed.

Crawford (2008, 2012); Demuth et al. (2009, 2010), Hirsh and Wexler (2006); van der Lely (1996) and Whitehurst, Ironsmith and Goldfein (1974) have used the same tense.

4.7.5. (b). Actors

Table 4.4 contains a list of all the actors used in this study. The humans consist of eight possible family members. It is interesting to note that Parramon Chocarro (2009) used exactly the same human actors for the study he conducted on 3 - 5 year old Catalan speakers. The animals consist of eight easily recognised domestic animals.

Table 4.4 Actors used in all Passive Comprehension and Production Tasks

Human	Animals
<i>mme</i> 'mother'	<i>nku</i> 'sheep'
<i>nkoko</i> 'grandmother'	<i>pitsi</i> 'horse'
<i>mosetsana</i> 'girl'	<i>kgomo</i> 'cow'
<i>ngwana wa mosetsana</i> 'baby girl'	<i>pudi</i> 'goat'
<i>ntate/rre</i> 'father'	<i>koko</i> 'chicken'
<i>ntatemogolo</i> 'grandfather'	<i>ntsha</i> 'dog'
<i>mosimane</i> 'boy'	<i>katse</i> 'cat'
<i>ngwana wa mosimane</i> 'baby boy'	<i>kolobe</i> 'pig'

In English, humans and animals are both regarded as animate. Therefore, a sentence such as “the dog is being patted/stroked by the man” is acceptable. In fact these are the main kind of sentences used in the Test for Reception of Grammar (Bishop, 1984). In English, Lempert (1990) used three forms, i.e. human affects human and animal affects animal and human affects animal.

In Setswana although one can say a sentence such as *katse e ngapiwa le monna* ‘the cat is being scratched by the man’ the verbs are marked differently i.e. *e* instead of *o* as the examples below show. Therefore, animal and human examples were not used together in the same set of test items, i.e. either human or animals were used. Humans are marked by Noun Class 1 while Setswana animals are marked by mainly noun classes 5 and to an extent 1a, 2, 3 and 4 (Cole, 1955), for example:

Katse e ngapiwa ke monna ‘the cat is being scratched by the man’

Ngwana o ngapiwa ke monna ‘the baby is being scratched by the man’

Katse e ngapiwa ke ntsha ‘the cat is being scratched by the dog’

4.7.5. (c). Devising pictures

In 1976 Ballentine, Ballentine and Morgan highlighted the fact that one of the major problems facing speech language therapists in South Africa was the absence or inadequacy of tests available for use with the black populations. Generally, the materials that speech language therapists use are not educationally, culturally, linguistically and environmentally suitable for South Africans. Certainly there are no passive pictures available for the Black South African population.

Therefore, before the pictures for the experimental tasks were devised, the researcher took these limitations into account. A South African trained graphic artist, Francios Gerstelling (March to May 2008), was commissioned to produce drawings which were specifically aimed to suit the Pankop community. In order to devise the specific pictures the artist photographed people and animals from Pankop as reference. He then devised the pictures of the specific verbs seen in Table 4.5.

4.8. Comprehension 2 and 3 Character tasks

Table 4.5 Comprehension 2 and 3 Characters tasks: Picture Selection task

	Categories of passive verbs assessed	Order of presentation of each stimulus ²⁴	Number of verbs	Example stimulus
Reversible	Reversible short sentences.	C A B D	4	<i>Mpontse kolobe e a latswiwa.</i> 'Show me the pig is being licked' (See Appendix 4K).
	Reversible long sentences.		4	<i>Mpontse ngwana wa mosimane o a jesiwa ke koko.</i> 'Show me the baby boy is being fed by the grandmother.' ²⁵
Negative	Negative affect short sentences.		4	<i>Mpontse pudi e a ragiwa</i> 'Show me the goat is being kicked'.
	Negative affect long sentences	A B C D	4	<i>Mpontse pudi e ragilwe ke pere</i> 'Show me the goat is being kicked by the horse' (See Appendix 4L)
Non-actional	Non-actional ²⁶ short sentences.		4	<i>Mpontse koko o ratiwe</i> 'Show me the grandmother is being loved'.
	Non-actional long sentences.	B D A C	4	<i>Mpontse ntate o boniwa ke mme</i> 'Show me the father is being seen by the mother' (See Appendix 4M)
	Non-actional negative short sentence		1	<i>Mpontse ngwana mosetsana o tlhogiwe</i> 'Show me the baby girl is being hated.'
	Non-actional long sentence	C B A D	1	<i>Mpontse ngwana wa mosetsana o tlhogilwe ke mosimane o mogolo</i> 'Show me the baby girl is being hated by the big boy (See Appendix 4N)

²⁴ This order in which the stimuli were presented were the same for short and long sentences

²⁵ Examples of both the same and different short and long verbs are provided in Table 4.5. to provide the reader with a sense of the different verbs used in the test materials.

Inanimate anti pragmatic	Inanimate short anti pragmatic sentences.		4	<i>Mpontse mosetsana o mogolo o a bofiwa</i> `Show me the big girl is being tied ‘
	Inanimate long anti pragmatic sentences.		4	<i>Mpontse katse e latswiwa ke laswana</i> `Show me the cat is being licked by the bowl
Inanimate pragmatic	Inanimate short pragmatic sentences.	AD CB	4	<i>Mpontse bolo e ragilwe</i> `Show me the ball is being kicked’ (See Appendix 4O)
	Inanimate long pragmatic sentences		4	<i>Mpontse prema e kgarmmetswa/pushiwa ke mme</i> `Show me the pram is being pushed by the mother’

4.8.1. Comprehension 2 Character tasks

According to the stipulations of the Picture Selection tasks, the four pictures on each page were organised according to an adaptation of The Test of Reception of Grammar (Bishop, 1984) (See Appendix 4P). In the current study participants were required to point to one of four pictures which assessed the understanding of passive verb categories and short and long sentences. The verb categories assessed, the order in which they were assessed, number of verbs for each category and examples can be seen in Table 4.5 for example, the reversible passive verb indicates the target sentence *Mpontse kolobe e a latswiwa* ‘Show the pig is being licked.’

4.8.2. Order of Comprehension 2 Character tasks

The four pictures of a single test stimulus were labelled A B C and D respectively. Grids were then made of different permutations of the four pictures (please see Figure 4.1). Bartke (2004), when devising her stimuli for Williams’ syndrome children, stated that “no picture appears more than once at the same spot in the set” (p. 354). Therefore, picture A was always in a different position. In addition all the pictures were manipulated in a different way e.g.

anticlockwise or according to diagonals. A list was then made numbered 1 through 25 and then a category of sentence randomly placed next to the number e.g. 17 is negative long while 4 is a non-actional short sentence as can be seen in Figure 4.1 below.

C	A
B	D

Reversible

A	B
C	D

Negative

B	D
A	C

Non-actional

A	D
C	B

Inanimate

Figure 4.1 Permutations for randomisation for Comprehension 2 and 3 Character tasks

4.8.3. Depiction of Passive Categories in the Comprehension 2 Character task

The specific ways in which the different passive categories were depicted in the pictures are described below:

Reversible passive verbs (Appendix 4K short sentence)

- In stimuli A and B the agent and patient²⁷ were swopped for example *kolobe e a latswiwa* ‘the pig is being licked’ and *nja e a latswiwa* ‘the dog is being licked’.
- In stimulus C: Different patient, same agent, same verb for example *katse e a latswiwa* ‘the cat is being licked’.
- In stimulus D: As in TROG, different verb but same patient and agent e.g., *kolobe e a gogiwa* ‘the pig is being pulled’.

Negative passive verbs (Appendix 4L long sentence)

- In A and B the agent and patient were swopped for example *pudi e a ragiwa ke pitsi/pere* ‘the goat is being kicked by the horse’ and *pitsi/pere e a ragiwa ke pudi* ‘the horse is being kicked by the goat’.
- C). Different patient same verb by same agent for example, *pudi e a lastswiwe ke pitsi/pere* ‘the goat is being licked by the horse’.
- D). same agent and patient but with positively or neutrally affected verb (i.e., contrast with A e.g. *kgomo e a ragiwa ke pitsi/pere* ‘the cow is being kicked by the horse’.

Non-actional passive verbs (Appendix 4M long sentence)

The verbs originally used by Crawford (2008, 2012); Gordon and Chafetz (1990); Hirsh and Wexler (2004, 2006) and Maratsos et al. (1985) were utilised in this study. In the pilot test phase, the non-actional verbs were represented using “thought bubbles”, to depict the relationship between the two characters (Hirsh and Wexler, 2006, p. 129) [Section 4.12.14 later in this chapter]. It must be noted that Fox and Grodzinsky (1998) have found that the verb ‘see’

²⁷ Please see chapter 2.6 for a description of agent and patient.

and ‘hear’ caused problems for their subjects. Non-actional passives were assessed using the same methods used in the other categories i.e.

- Stimuli A and B represent reversible passive verbs for example *ntate o boniwa ke mme* ‘the father is being seen by the mother’ and *mme o boniwa ke ntate* ‘the mother is being seen by the father’.
- C is a different patient for example *ngwana wa mosetsana o boniwa ke mme* ‘the baby girl is being seen by the mother’.
- D. Is the actional verb *ntate o suniwa ke mme* ‘the father is being kissed by the mother’.

Non-actional negative passive verb task (Appendix 4N long sentence)

One of the non-actional verbs is a negatively affected verb i.e. hated e.g. *ngwana wa mosetsana ga a ratiwe ke mosimane* ‘the baby boy is being hated by the boy’. The reason for including this item was to determine if adding a negative affected item to the non-actional tasks would affect respondents’ performance on this category. It was hypothesized that negative non-actional verbs would be an interesting category considering the debate about whether negative affected verbs are indeed a form of passive or not (Crawford, 2005; Sugisaki, 1999). The fact that only one negatively affected agent verb was included in the test stimuli is a limitation of this study. This limitation will be discussed further in Chapter 7.

Inanimate passive verb tasks (Appendix 4O short sentence)

- A separate task was devised in order to assess children’s knowledge of inanimate passive verbs. Sentences such as these can be divided into two categories, anti pragmatic [a sausage frying a man] and pragmatic sentences [a man frying a sausage] (Bartke, 2004).

Bartke uses the term non-reversible for inanimate verb tasks ²⁸. There were eight inanimate verbs which were divided into pragmatic and anti pragmatic tasks consisting of four verbs each.

Test items A and B could be antipragmatic and pragmatic. In the example, Sentence A is pragmatic, *bolo e ragilwe (ke mosimane)* ‘the ball is being kicked’ (by the boy). It has an inanimate patient and an animate agent. Sentence B is antipragmatic *mosimane o ragilwe (ke bolo)* ‘the boy is being kicked (by the ball)’. This sentence has an animate patient and inanimate agent. Sentence B is an absurdity. In sentences A and B the agent and patient were exchanged.

- C and D. Filler sentences with different verbs but the same characters. Examples are *bolo e phositswe (ke mosimane)* ‘the ball is being thrown’ and *mosimane o bala buka* ‘the boy reads the book’. Sentence C has the same inanimate patient as A and same animate agent but a different verb. Sentence D was a filler with a single subject active sentence *ntsha ya thutha* ‘the dog is swimming’.

These filler sentences were used in order to prevent a participant from processing sentences in a uniform manner, i.e. only processing active sentences (Maratsos and Abramovitch, 1975).

4.8.4. Comprehension of 3 Character task

A Comprehension task using the felicitous condition described by O’ Brien et al. (2006) was also administered. Thus, there were three characters depicted in the stimuli. Appendix 4Q shows the same stimuli as used in the Comprehension of 2 Character task for Non-actional Passives but with the addition of an additional character as can be seen in the example of a long non-actional 3 characters task:

²⁸ Parramon Chocarro (2009) names anti pragmatic sentences as semantically irreversible. He claims that these sentences are “not in correspondence with a probable world image” (p. 34), for example ‘the postman was bitten by the apple’.

- Stimuli A and B are reversible for example *ntate o boniwa ke mme* ‘the father is being seen by the mother’ and *mme o boniwa ke ntate* ‘the mother is being seen by the father’. In both cases the baby girl is standing nearby.
- Stimulus C is a different patient for example *ngwana wa mosetsana o boniwa ke mme* ‘the baby girl is being seen by the mother’. In this case the father is standing by.
- Stimulus D is the opposite concept i.e. actional *ntate o suniwa ke mme* ‘the father is being kissed by the mother’. The baby girl is standing by.

Parramon Chacarro (2009) depicted his stimuli in exactly the same way as described above for stimuli A to C. As mentioned above, his study examined 3 – 5 year old Catalan speakers. This Comprehension of 3 character tasks was used in order to assess whether adding a third character would prove to be a felicitous condition as it was for O’ Brien et al. (2006). Demuth et al. (2009, 2010) also used this felicitous condition in a Picture Selection task. These authors’ results will be discussed in Chapter 5 together with the results of Comprehension of 3 Character tasks.

4.8.5. Short and long passives

The different passive categories were then divided into short and long passives. The same sentences were used for both short and long passives. The only difference was that the short sentence did not contain the *by*-phrase. The same verb and actors were used for short and long sentence stimuli so that the child’s responses could in each case be compared (Gordon and Chafetz, 1990; van der Lely, 1996).

Demuth et al (2009, 2010) and J. Crawford (personal communication, April 27, 2008) report on a different structure for long and short passives in Sesotho as can be seen below:

... My short passives were slightly different than my long passives. Because they had to be. Here is a long passive:
 Ntate **o** rah-o-a ke ausi
 father SM kick-PASS-FV by sister
 Father was kicked by sister
 My informant (and colleagues at NUL) said that subject agreement with short passives was ungrammatical:
 *Ntate **o** rah-o-a
 Instead you have to use this:
 Ntate **oa** rah-o-a ("present" tense--father is being kicked)
 father NP kick-PASS-FV
 father is being kicked
 or this, with difference in mood marking:
 Ntate **o** rahu-o-e
 Ntate **o** rah-il-o-e
 ("past" tense? father was kicked?)

Tshule, a first language speaker of Setswana (M. Tshule, personal communication, April 24, 2008) disputes this different structure for these passives. She maintains that any differences are phonological.

4.8.6. Number of test items for Comprehension of 2 and 3 Character tasks

The comprehension two and three character tasks consisted of four categories of passives, and four verbs for each category, except non-actional passives had 5 verbs due to a non-actional negative verb being included resulting in 13 test items. However, this number of items was doubled as both short and long passives were tested. These 26 sentences were randomized for Comprehension 2 and 3 Character Tasks, Form A and a Form B as can be seen in Figure 4.2.

4.8.7. Randomisation of items for Comprehension 2 and 3 Character tasks

	Form A Comprehension 2 and 3 Character tasks	Form B Comprehension 2 and 3 Character tasks
1	Non-actional short stimulus 1	Non-actional negative long stimulus 1
2	Reversible short stimulus 3	Reversible short stimulus 2
3	Non-actional short stimulus 3	Negative long stimulus 1
4	Reversible short stimulus 4	Non-actional short stimulus 2
5	Non-actional long stimulus 2	Non-actional long stimulus 4
6	Reversible long stimulus 3	Reversible long stimulus 2
7	Negative long stimulus 2	Negative short stimulus 3
8	Negative short stimulus 1	Non-actional short stimulus 1
9	Non-actional short stimulus 4	Reversible long stimulus 4
10	Reversible long stimulus 2	Non-actional long stimulus 2
11	Reversible short stimulus 1	Negative short stimulus 1
12	Non-actional short stimulus 2	Reversible long stimulus 1
13	Non-actional negative short stimulus 1	Non-actional short stimulus 3
14	Non-actional long stimulus 1	Negative short stimulus 4
15	Negative short stimulus 3	Reversible short stimulus 3
16	Reversible long stimulus 4	Negative long stimulus 4
17	Negative long stimulus 4	Non-actional long stimulus 1
18	Non-actional long stimulus 4	Negative long stimulus 3
19	Negative short stimulus 2	Reversible short stimulus 1
20	Non-actional long stimulus 3	Negative short stimulus 2
21	Negative short stimulus 4	Non-actional short stimulus 4
22	Reversible long stimulus 1	Negative long stimulus 2
23	Negative long stimulus 3	Reversible long stimulus 3
24	Negative long stimulus 1	Reversible short stimulus 4
25	Reversible short stimulus 2	Non-actional long stimulus 3

Figure 4.2 Randomisation of Comprehension 2 and 3 Character tasks

4.8.8. Rationale for Form A and Form B

Two forms of each Comprehension and Production tasks were used. The reason for this is that two children were in the testing area at the same time as described in section 4.12.2 setting of pilot testing.

Lust et al. (1998, p. 71) also suggests that:

The sentences in these two batteries will be identical except for the lexical content for each condition being tested. That is, the syntactic structures of the sentences in each battery are identical but the words are different in replication items across boundaries.

This allows the researcher to evaluate whether it is in fact the grammatical factors underlying structure, not lexical items or specific meanings that critically affect children's behaviour.

An example of Form B for Comprehension 2 Character task appears in Appendix 4R.

Appendix 4S is the scoring sheet for comprehension inanimate tasks while Appendix 4T contains an example of Comprehension 3 Character Form A.

Prior to the start of testing, participants become familiar with the picture task by pointing to up to four pre test items. These items also had four pictures per page. The pictures depicted simple actions such as *Mpontse ntsha ya thutha* 'Show me, the dog is swimming' as can be seen in Appendix 4U.

4.8.9. Scoring of Comprehension tasks

The children's responses to the Comprehension 2 and 3 tasks were scored as can be seen in Table 4. 6 – Scoring for Comprehension 2 Character and 3 Character tasks.

Table 4.6 Scoring for Comprehension 2 and 3 Character tasks

Type of passive	Score A = 2	Score B = 1	Score C = 3	Score D = 0
Reversible	Correct picture	The agent and the patient will be swapped.	Different patient, same agent, same verb.	As in TROG, different verb but same patient and agent.
Negative affect	Correct picture	Reversible negative	Different patient, same verb, same agent.	Same agent and patient but positively or neutrally affected verb.
Non-actional	Correct picture	Reversible of A	Different patient, same, verb same agent.	It's the opposite concept i.e. actional
Inanimate anti pragmatic	Correct picture	Anti-pragmatic	Same patient, same agent, different verb.	Different Concept
Inanimate pragmatic	Correct picture	Pragmatic	Same patient, same agent, different verb.	Different Concept

Appendix 4V shows how the coding was done for the participants on the Comprehension tasks. This scoring shows how the names of the participants have been changed to ensure the anonymity of the participants, as required by the Human Ethics Form.

4.9. Passive Production Tasks

Table 4. 7 Elicited Production and Elicited Imitation tasks

Categories of passive verbs assessed	Order of presentation of each stimulus ²⁹	Number of verbs	Example stimulus
Reversible short sentences.	A B C D	4	<i>Ngwana wa mosimane o a suniwa</i> 'the baby boy is being kissed
Reversible long sentences.		4	<i>Kolobe e latswiwa ke njwa</i> 'the pig is being licked by the dog
Negative affect short sentences.	DA B C	4	<i>Pudi e a ragiwa</i> 'the goat is being kicked
Negative affect long sentences.		4	<i>Mosimane o shapiwa ke ntatemogolo</i> 'the boy is being hit by the grandfather
Non-actional short sentences.	B C DA	4	<i>Mosetsana o a utliwiwa</i> 'the girl is being heard'
Non-actional long sentences.		4	<i>Ngwana wa mosetsana o thlogilwe ke mosimane</i> 'the baby girl is being hated by the boy
Inanimate short sentences.	B C DA	4	<i>Bolo e a ragiwa</i> 'the ball is being kicked'
Inanimate long sentences.		4	<i>Baluni e bofiwa ke ntate</i> 'the balloon is being tied by the father
Impersonal short sentences.	DB AD	4	<i>Go nale nama e e apeilweng</i> 'there is being cooked meat'
Impersonal long sentences.		4	<i>Go nale tee e e dirilweng ke mme</i> 'there is being made tea by mother

²⁹ This order in which the stimuli were presented were the same for short and long sentences

4.9.1. Elicited Imitation tasks

Lust et al. (1998) state the Elicited Imitation tasks are used with a “repeated measures design”. These authors (1998) also recommend the Elicited Imitation tasks should “tax” the child’s processing ability e.g., by their length. This assessment should be just enough so that children can and do attempt reconstruction without overtly involving their grammar. Sentences, therefore, consisted of an average of 8 syllables for short passives and 11 syllables for long passives. Lust et al. (1998) recommended that sentences should be approximately nine syllables long and not vary by more than two syllables. These test sentences fit this criterion of length of sentence.

4.9.2. Method

Lust et al. (1998) state that the experimental sentences should be preceded by a set of model sentences. Model sentences assist participants in becoming familiar with the format of testing. However, they do not contain any target structures. This was done as can be seen in Table 4.8. The model sentences were exactly the same as test sentences but with different verbs than those used in test items. An example is for the inanimate category, the model verbs were *paintiwa* ‘is being painted’ and *latswiwa* ‘is being licked’. The test verbs were *bofilwe* ‘is being tied’, *kgarameditswa/pushiwa* ‘is being pushed’ and *gogiwa* ‘is being pulled’. It is interesting to note that pilot testing showed that both the standard form *kgarameditswa* and the non standard form *pushiwa* needed to be provided to the children. Some children did understand the standard form but the majority understood only the non standard form.

Table 4.8 Categories of the passive to be examined in Elicited Imitation task

Passive Category	Long passive	Short passive
Reversible	2 model sentences 3 test sentences	2 model sentences 3 test sentences
Negative affect	2 model sentences 3 test sentences	2 model sentences 3 test sentences
Non-actional	2 model sentences 3 test sentences	2 model sentences 3 test sentences
Inanimate	2 model sentences 3 test sentences	2 model sentences 3 test sentences
Impersonal	2 model sentences 3 test sentences	2 model sentences 3 test sentences

Once again two alternate forms of the stimuli were devised i.e. Form A and Form B. An example of the Elicited Imitation Form B can be seen in Appendix 4Y.

4.9.3. Randomisation

The different features of the passive and model and test sentence types were then randomized for Form A and Form B as can be seen in Figure 4.3. A random order of the passive sentences was prepared with the two practice items always preceding the test items.

	Form A Elicited Imitation	Form B Elicited Imitation
1	Reversible long sentences	Non-actional short sentences
2	Inanimate short sentences	Negative long sentences
3	Negative short sentences	Inanimate short sentences
4	Impersonal long sentences	Reversible short sentences
5	Non-actional short sentences	Impersonal long sentences
6	Non-actional long sentences	Reversible long sentences
7	Negative long sentences	Non-actional long sentences
8	Impersonal short sentences	Impersonal short sentences
9	Inanimate long sentences	Inanimate long sentences
10	Reversible short sentences	Negative short sentences

Figure 4.3 Randomisation of Form A and Form B Elicited Imitation tasks

4.9.4. Elicited Production Task

A card game was used for this task. The cards depicted an action taking place such as *ngwana wa mosetsana o otilwa ke ntatemogolo* as can be seen in Table 4.8. 'The baby girl is being hugged by the grandfather'. The child was then prompted to: *Mpontse gore go diragalang* 'tell me what is happening'. The patient in each picture was demarcated with a gold star and the research assistant pointed to it in order to prompt the child how to begin the sentence with that word.

The research assistant held six cards which contained verbs from the five passive categories as follows:

- Reversible
- Negative affect
- Non-actional
- Inanimate
- Impersonal. The impersonal category was examined on the Elicited Production task. An example is *go nale coke ee tshediwang ke mosimane* 'there is being poured the coke by the boy' as can be seen in Appendix 4W.

4.9.5. Methods for administering the Elicited Production Task

- The research assistant said a passive sentence to the child and then asked the child to tell what was happening in the picture, i.e. the child received one model sentence from the first of the cards the research assistant was holding. Appendix 4W shows the instructions given to the research assistants for the administration of this task.
- For the second and third card the research assistant attempted to coax the child to produce the passive sentence by themselves. The research assistant prompted the

child if necessary, particularly on how to begin the sentence, with the patient being marked by the gold star. The fourth to sixth card were test cards where the child was required to produce the passive sentence.

- Short and long passives were tested on the Elicited Production task. If the child produced a short passive such as *kolobe e gogiwa* 'the pig is being pulled', attempts were made to elicit the long passive including the agent. The research assistant asked the child 'by whom is the action being performed? In an attempt to get the full sentence *kolobe e gogiwa ke ntsha* 'the pig is being pulled by the dog.
- The Elicited Production task consisted of five passive categories. There were four examples of each category resulting in 20 test items. Each item also had a short and long alternative, resulting in 40 test items as can be seen in Appendix 4X for Form A.

4.9.6. Scoring of Production tasks

Table 4.10 shows the item analysis error codes necessary for the Production tasks devised from pilot testing.

Table 4.9 Item analysis error codes for Production tasks

Codes	Description
1.	Correct Response
2.	W/K =Omits the wa, says the ke in a long sentence.
3.	C = Wrong character
4.	WV = Wrong verb
5.	S/L = Used a short sentence instead of a long sentence.
6.	L/S = Used a long sentence instead of a short sentence.
7.	a= Used a different word with the same meaning.
8.	H = Helped the child with the sentence.
9.	A = Active sentence
10.	Wa /o a , only in a short sentence.
11.	Ya / e a , only in a short sentence.
12.	L/S + C
13.	W/K +WV
14.	WV +S/L
15.	W/K + C
16.	L/S + WV
17.	W/K + WV + C
18.	WK + a + C
19.	WV + C
20.	S/L + C
21.	L/S + WV + C
22.	Wa /o a + wv + S/L
23.	Ya /e a + wv + S/L
24.	La / le a
25.	La / le a + S/L
26.	Ya / e a + S/L
27.	Wa / o a + S/L
28.	Wa / o a + wv
29.	Wa / o a + C
30.	Ya / e a + wv

4.10. Testing

Participants were tested individually in as a quiet a space as possible, taking the crèche facilities into account. Two children were brought into the experimental area in order to familiarise them with the task. Children were tested alternating Form A and Form B on each of the tasks so that the two children sitting in the room did not hear the same sentences.

4.10.1. Recording of children's responses

All the children's responses were tape recorded on a Panasonic Slim Line Tape Recorder, TDK SA High position cassettes and a Shure Q7 Dynamic Microphone. In addition, they were video recorded on Sony VCT R 640 # CAE with Sony Mini DV cassettes and a SONY VCT-R640 tripod.

4.10. 2. Procedure for administering Comprehension and Production tasks

Figure 4.4 shows the procedure for administering Comprehension and Production tasks. Elicited Imitation tasks were administered on a different occasion.

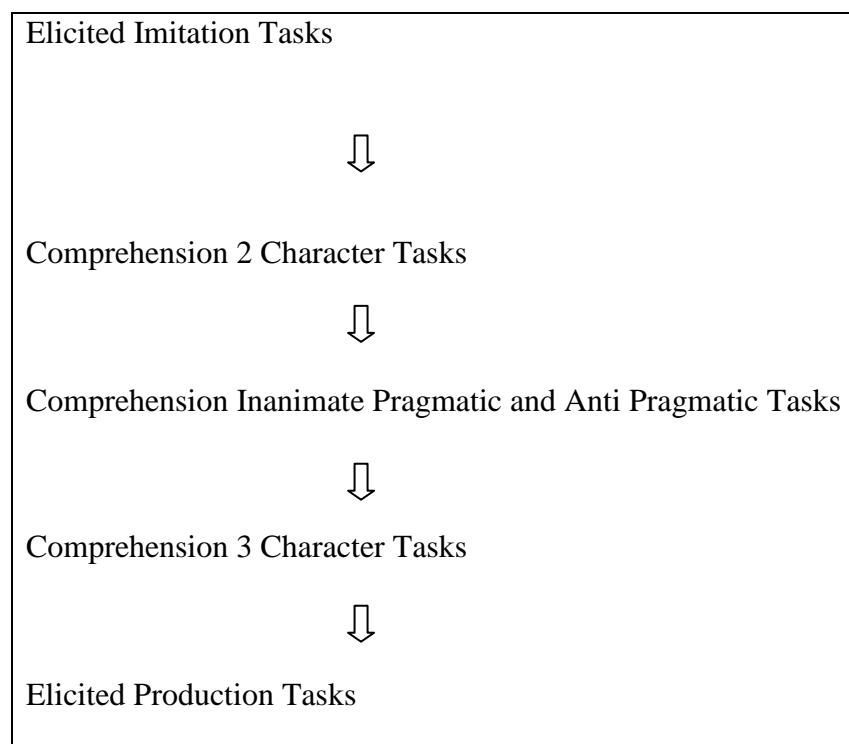


Figure 4.4 Administrations of Comprehension and Production tasks

4.11. Pilot testing

Seven different series of pilot tests were conducted as can be seen in Appendix 4Y1. Therefore, the extensive pilot testing showed that this research fulfilled Thornton's (1998) insistence that pilot testing is necessary if the experiment is to meet its goal. The pilot testing achieved varying results regarding both the children's knowledge of the passive as well as their performance on the tasks. Participants produced the passive with ease on all 5 categories of Elicited Imitation. For both the Comprehension 2 and 3 Character task participants were able to identify pictures but not always the stimulus picture. The Elicited Production task was a great challenge and three different versions did not conclusively show that participants could produce the passive. However, the participants of the Picture Selection and Elicited Production Star tasks scored the best on these versions. Therefore, it was decided to use these versions of the pilot tests for the main study. The pilot test findings have very important implications regarding findings in the literature and the hypothesis on which this research is based.

4. 12. Inter-rater reliability

As shown in Table 4.10 all stimuli were analysed firstly in terms of the various types of responses given by the respondents, and secondly in terms of correctness. In addition, this table shows that the inter-rater reliability was assessed, firstly by calculating the percentage of respondents who received the same response category code judgment from the two raters. Secondly, corresponding percentages were calculated based on the number of times the two raters both rated a response as correct, or both rated a response as incorrect, i.e. delivered the same ratings in terms of correct/ incorrect judgments. The percentages calculated by both methods are presented in Appendix 4DD.

Table 4.10 Mean and median percentage consistent category and correct/wrong responses for two raters across stimuli within each task

Stimuli	Response category judgements		Correct/wrong response judgements	
	mean % agreement	median % agreement	mean % agreement	median % agreement
Comprehension2 tasks	84.1%	83.6%	92.8%	93.2%
Comprehension3 tasks	91.9%	91.8%	95.4%	95.9%
Elicited Production	86.7%	86.3%	86.7%	86.3%
Elicited Imitation	98.0%	100.0%	98.0%	100.0%
All tasks	90.9%	89.7%	93.3%	93.2%

Using mean percentages, the two rater's agreed on the response category rating for each of the stimuli of the four tasks. They achieved a high inter-rater consistency in judgment. On average, the two raters agreed on the response category they assigned to the stimuli of the four tasks between 84% and 98% of the time. Considering only correct/ wrong judgements the two raters agreed on average between 93% and 98% of the time. Moreover, the medians of the percentages show that on half of the stimulus responses judged, the two raters agreed at least 84% of the time on the response category that they assigned, and at least 86% of the time that the response was correct or wrong. The overall level of agreement for response category judgements of all the stimuli was almost 91%, and 93% for correct/wrong response judgements of all the stimuli.

In light of these statistics, the decision was taken to use the ratings of only rater 1, the rater with more complete information for the remainder of the analysis.

4.13. Data analysis

All the research instruments yielded interval levels of measurements, the appropriate parametric statistical procedures were selected for between and within group comparisons and correlations

(Schiavetti and Metz, 2006). All data analysis was done on Statistica data analysis software system, version 9 by a qualified statistician.

Descriptive statistics in the form of means, medians, minimums and maximums and standard deviation were calculated for the three age groups (2.6 – 3.5 years; 3.6 years to 4.5 years; 4.6 years to 5.5 years) on Comprehension 2 and 3 Character, Elicited Production and Elicited Imitation tasks. These values were captured in tables and the means were displayed graphically. Significance was determined on post hoc Scheffe tests.

4.14.1. Comprehension 2 Character task Set A

For data analysis purposes the Comprehension 2 Character tasks were divided into Set A and Set B. Set A was a complete set of every sentence. Therefore, in Set A, 4 passive categories were assessed. These included the reversible, negative, non-actional and inanimate categories. However, the non- actional category was further divided into 4 non-actional sentences. A single non- actional negative test sentence was also included in the Comprehension 2 Character task, e.g., *mosetsana o ragiwa ke mosimane* ‘the girl is kicked by the boy’ as can be seen in Table 4.5. In addition the inanimate tasks were divided into anti-pragmatic as well as pragmatic sentences. Examples include *ntate opaintiwa ke lebota* ‘the father is being painted by the wall’ and *koko o tlhatswa ke jeresi* ‘the grandmother is washing the jersey’.

4.14.2. Comprehension 2 Character task Set B

In Set B the non-actional and inanimate categories have been collapsed. Therefore, the non-actional negative sentence is considered as part of the non-actional passive category and not separately as in Set A. In addition, the anti pragmatic and pragmatic tasks have been considered together as a single inanimate category for Set B.

4.14.3. Levels of statistical significance

All the statistical comparisons of the between and within groups were considered to be significant if the probability of rejecting the null hypothesis i.e. that the difference was not significant at 5% or less ($p < 0.05$).

4.14.4. Item analysis

This was attempted but no usable results were obtained. This is because no patterns of performance could be found. Responses were totally variable. Therefore, item analysis was abandoned and not considered in this study.

Chapter 5

Results of Elicited Imitation tasks

This chapter will deal with the results of the Elicited Imitation tasks. There were 15 participants in age group 1 (2.6 – 3.5 years), 20 in age group 2 (3.6 – 4.5 years), and 17 in age group 3 (4.6 – 5.5 years). There were also 11 adult verifiers for this task.

The results will be described in terms of the research questions. They will then be related to findings of other Elicited Imitation tasks in the literature in order to determine a broad understanding of the results.

Results will be provided in terms of means and standard deviations. Appendix 5/6A provides the detailed Descriptive Statistics obtained from all age groups and adults. Any significant interactions amongst the variables will also be described.

5.1. Age group comparisons

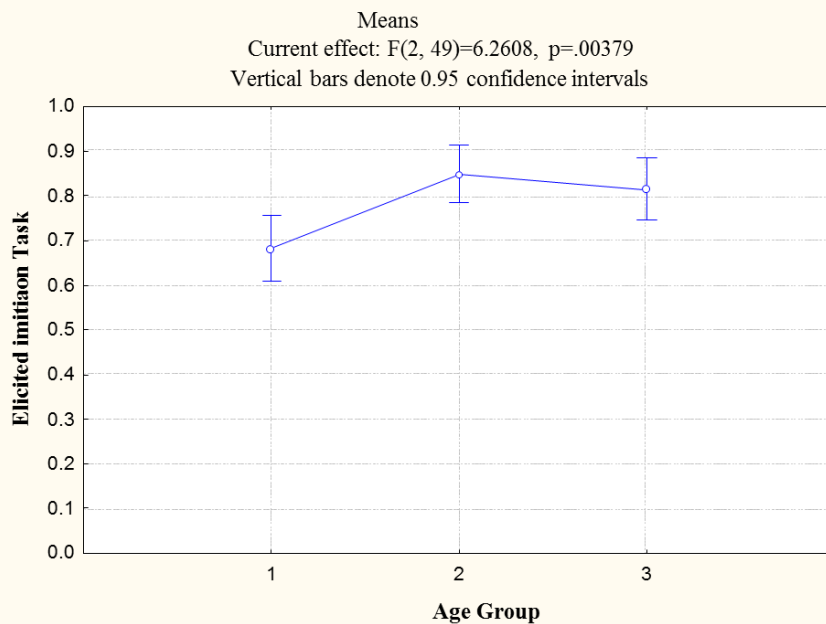
All participants scored high on Elicited Imitation tasks as Table 5.1. shows. According to the post hoc Scheffe comparison, the performance of the youngest group is significantly different from age groups 2 and 3 on Elicited Imitation, with the younger group scoring lowest (mean = 68)³⁰ of the three age groups as Figure 5.1 shows ($F=10.382$; $df=4,236$; $p<0.0$). Therefore, on Elicited Imitation tasks there is a developmental trend with children scoring better as they get older. The adult group scored at ceiling as can be seen on Figure 5.2.

Age group 3 participants differed significantly from the adults on all the Elicited Imitation tasks, with mean performances of Elicited Imitation at 81% for age group 3 and 91% . for adult participants ($p<0.05$) as can be seen in Figure 5.3.

³⁰ In order to obtain percentages from means, each mean must be divided by the maximum possible score for the test and multiplied by 100. The means are depicted on the Y Axis and can also be multiplied by 100 in order to get a percentage.

Table 5.1 Results of the Age Variable on Elicited Imitation tasks

	n=15		n=20		n=17		n= 11	
	Age Group 1		Age group 2		Age group 3		Adults	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Elicited Imitation Reversible Short Sentences	3.27	2.37	1.87	1.44	1.94	1.43	1.73	1.01
Elicited Imitation Reversible Long Sentences	1.26	0.34	1.15	0.21	1.22	0.29	1.05	0.1
Elicited Imitation Negative Short Sentences	2.73	2.49	1.8	1.2	1.71	1.99	1.18	0.6
Elicited Imitation Negative Long Sentences	1.47	0.63	1.19	0.31	1.38	0.29	1.73	1.63
Elicited Imitation Non-Actional Short Sentences	2.6	1.72	1.5	0.89	2.41	1.84	1.55	0.93
Elicited Imitation Non-Actional Long Sentences	1.26	0.3	1.1	0.16	1.15	0.22	1.2	0.25
Elicited Imitation Impersonal Short Sentences	3.27	2.49	2	1.65	1.98	1.29	1.18	0.6
Elicited Imitation Impersonal Long Sentences	1.59	0.29	1.26	0.29	1.29	0.3	1.16	0.26
Elicited Imitation Inanimate Short Sentences	2.02	1.39	1.50	1.43	1.12	0.49	1.73	1.35
Elicited Imitation Inanimate Long Sentences	1.34	0.37	1.14	0.24	1.21	0.24	1.05	0.15

**Figure 5.1.**Mean performance of the 3 age groups on Elicited Imitation tasks

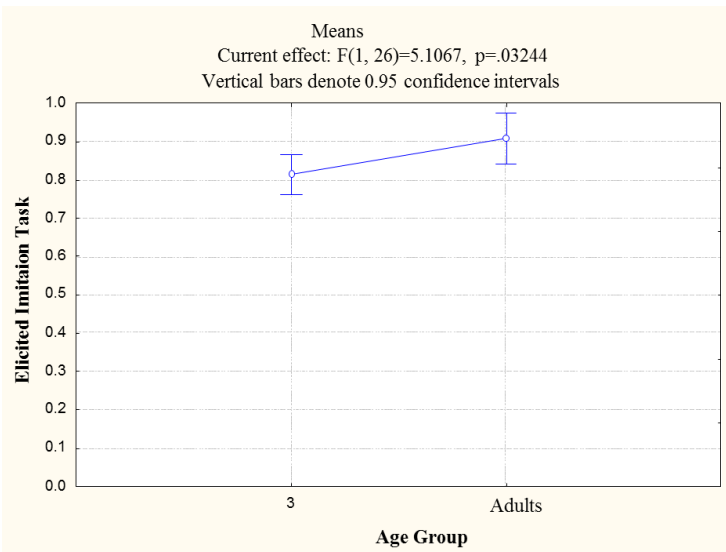


Figure 5.2 Mean performance of age group 3 and adult verifiers on Elicited Imitation

5.2. Passive categories comparisons

Table 5.2 Results obtained in each of the passive categories in the Elicited Imitation task

n =63		
	Means	Std Dev
Elicited Imitation Reversible	1.69	0.91
Elicited Imitation Negative	1.65	1.06
Elicited Imitation Non-Actional	1.60	0.81
Elicited Imitation Impersonal	1.75	0.96
Elicited Imitation Inanimate	1.38	0.69

Table 5.2 and Figure 5.3 show the performance of the participants across the passive categories. As can be seen in Table 5.2, the performance of the participants was found to be significantly different across the categories, with the impersonal passive category being significantly more difficult, with a mean of 0.72, than the non-actional and inanimate categories (mean = 0.83).³¹ The corresponding means are presented in Figure 5.3. The poor result on the impersonal category was somewhat surprising because

³¹ All scores indicate that the participants imitated the stimuli in their entirety correctly.

Cole (1955) contends that the use of the impersonal category is one of the reasons that the passive construction is used so frequently in Setswana.

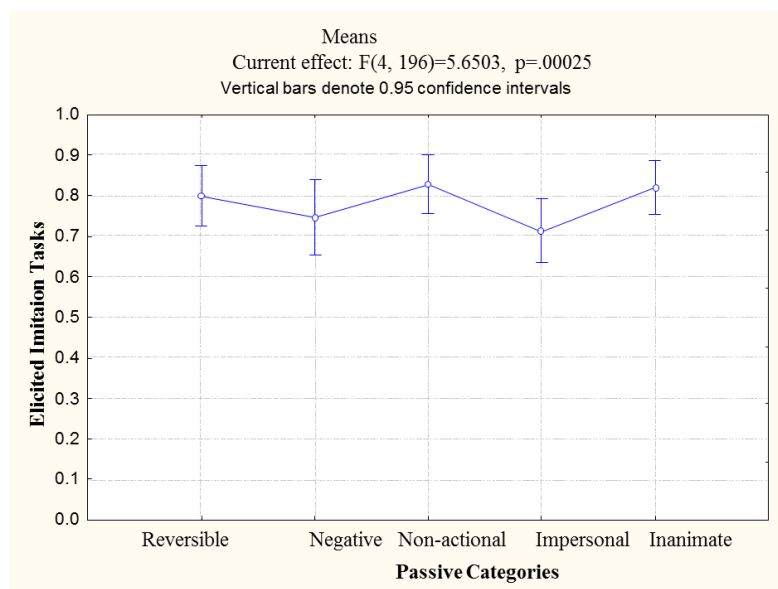


Figure 5.3 Mean performance on passive categories on Elicited Imitation tasks

5.3. Effect of length

Table 5.3 Performance on Short and Long Passives on Elicited Imitation tasks

	Mean	Standard Deviation
Elicited Imitation Short Sentences	1.96	1.08
Elicited Imitation Long Sentences	1.25	0.23

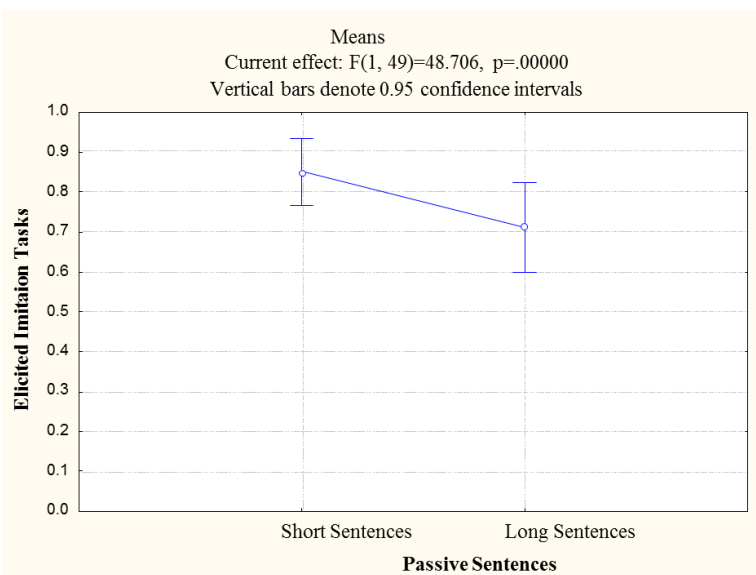


Figure 5.4 Mean performance on short and long sentences on Elicited Imitation tasks

Table 5.3 and Figure 5.4 depict the performance of the participants according to the length variable. The performance of the participants was found to be significantly better on the Elicited Imitation tasks with short sentences compared to long sentences as can be seen in Figure 5.4. with mean performance scores of 0.86 and 0.72 respectively. The pattern of the errors on the long sentences were the omission of the by phrase, for example, *ke malome* 'by the uncle'. This result is understandable when memory is considered as a factor. Naturally it is easier to remember shorter sentences, than longer ones. However, the difference between the short and long sentences in this task was only three syllables.

5.4. Interaction among age, passive category and length variables on Elicited Imitation tasks

Table 5.4 Ranking of interaction of age, passive category and length on Elicited Imitation tasks

	Age Group 1	Age Group 2	Age Group 3	Adult Verifiers
Passive Category and Length Variables ranked from most difficult to easiest	Reversible Long Non-actional Long	Non-Actional Long	Inanimate Short	Reversible Long Inanimate Long
	Inanimate Long	Inanimate Long	Non-actional Long	Impersonal Long
	Negative Long	Reversible Long	Inanimate Long	Negative Short Impersonal Short
	Impersonal Long	Negative Long	Reversible Long	Non-actional Long
	Non- Actional Short	Impersonal Long	Impersonal Long	Non-Actional Short
	Negative Short Inanimate Short	Non-actional Short Inanimate Short	Negative Long	Reversible Short Negative Long Inanimate Short
	Reversible Short Impersonal Short	Reversible Short	Negative Short	
		Negative Short	Reversible Short	
		Impersonal Short	Impersonal Short	
			Non-actional short	

Table 5.4 is a ranking of the variables of age, passive category and length. This table shows that the long sentences in all categories were more difficult than the short sentences, as is confirmed in Table 5.3 and Figure 5.4. Although results were not consistent for each category, they were also not totally variable, for example reversible short sentences were either the easiest or third easiest category. The participants in the 3 age groups scored the best on impersonal short sentences.

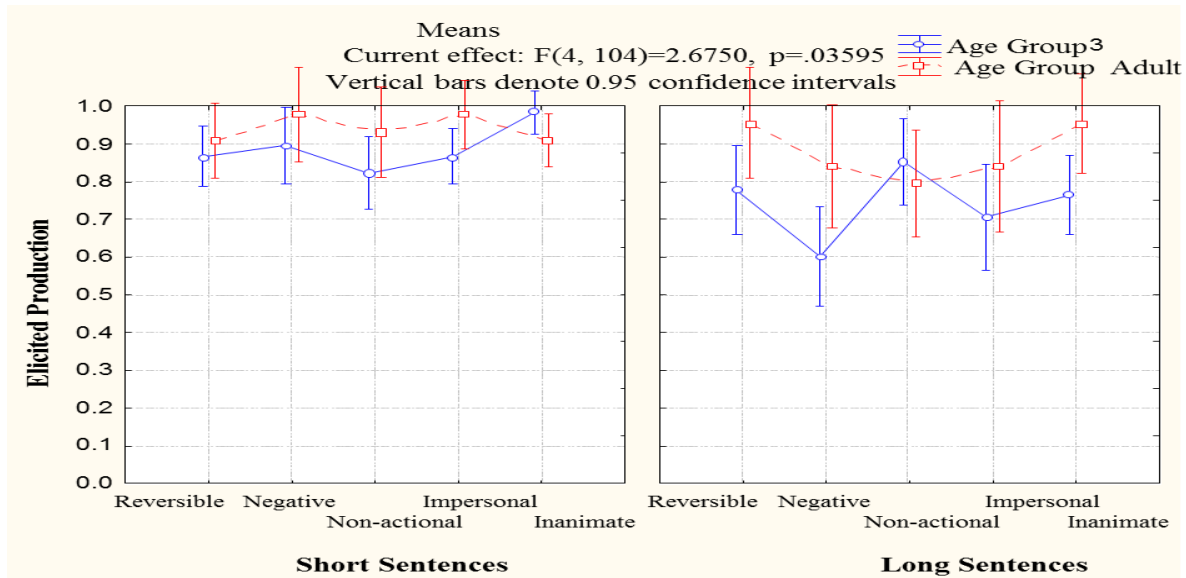


Figure 5.5 Interaction among age, passive category and sentence length variables on Elicited Imitation tasks

Figure 5.5 shows that both age group 3 and the adults scored in a consistent pattern for the passive categories on short sentences. However, there is much variation on the long sentences for the different passive categories for age group 3 and the adults. It is only on the non-actional category that the 2 age groups score the same.

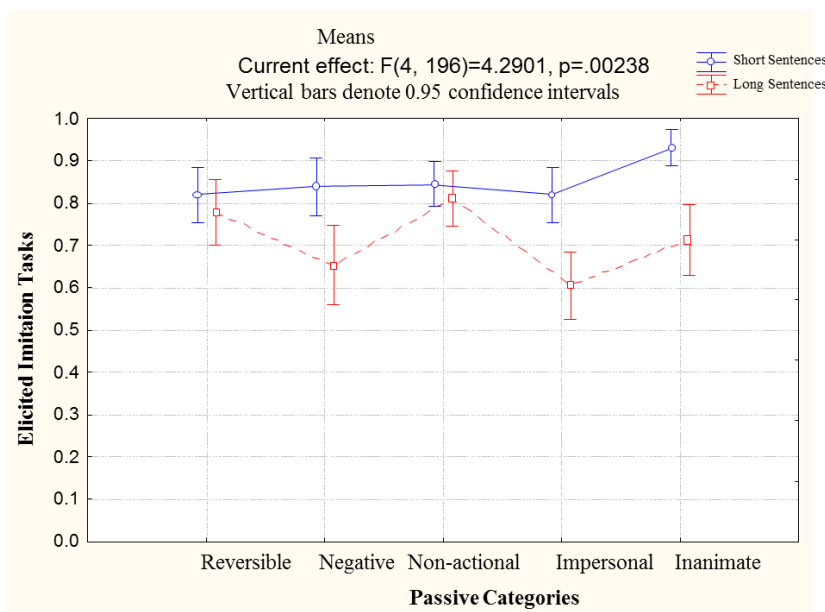


Figure: 5.6 Interaction of passive categories and length on Elicited Imitation task

Figure 5.6. shows that the participants scored better on all passive categories for short sentences than for long sentences. The scores for the passive categories on short sentences were more consistent than for long sentences.

5.5. Discussion on Elicited Imitation task results

These results show that participants performed best on non-actional tasks as Figure 5.3 shows. This is a surprising finding as in the literature many authors have commented on the difficulty children experience with non-actional tasks (Crawford, 2008; Demuth et al. 2009, 2010; Fox and Grodzinsky, 1998; Hirsh and Wexler, 2004, 2006).

The most difficult task was the impersonal task. These poor results on impersonal tasks are, therefore, in contradiction to Machobane's (1987, p. 51) claim that Sesotho-speakers are able to form "*ho*-passives as productively as movement passives". These results are also in disagreement to the comments made by Cole (1982) mentioned in Chapter 2. Cole commented that one of the reasons why "passive verbs are used much more commonly in Tswana than in English is due to the impersonal construction" (p. 195).

My Setswana research assistants reported that the impersonal passive is not used in every day speech. Therefore, there is a possibility that the impersonal is becoming a less used form. Future research should be conducted to determine whether indeed Setswana-speakers use the impersonal passive or not. I hypothesise that the reason for this may be that impersonals may be a construction that participants are not using as often as predicted in the literature.

5.5.1. The effectiveness of the Elicited Imitation task as an assessment tool

The results on the Elicited Imitation tasks show the value of this task as a measure of examining the passive. For the participants of this study, Elicited Imitation was a useful tool to

evaluate their knowledge of the passive. Therefore, the Elicited Imitation task would be an effective tool in Speech Language Therapy.

A possible reason for this is that rote learning is often used as a method of teaching in schools in South Africa (Mda and Mothata, 2000). Children are generally not familiar with learning using pictures as a task. This could be seen from the fact that there were few books or pictures in the classrooms. In addition, the Elicited Imitation tasks proved to be very successful as they showed that the participants comprehended and produced the passive (Vinther, 2002; Lust et al. 1998).

I regard the fact that Messenger et al. (2009, p. 285) found that children as young as three to four years but younger than five years produce and have, therefore, acquired the passive construction on priming tasks encouraging due to the relationship between Elicited Imitation and priming. Both these tasks require repetition. Deen (personal communication, December, 19, 2011) has confirmed that there is a relationship between repetition and priming tasks, although at this point, there is no formal research comparing the two methods of production.

5.5.2. Elicited Imitation as flaw of study

The fact that only 15 participants were used for age group 1 can be seen as a flaw of the study.

5.5.3. Results of Elicited Imitation tasks in relation to the literature

Whitehurst et al. (1974, p. 268) found that “the modelling procedure increased the comprehension scores of the experimental group” for their 4 to 5.6 year old participants, as can be seen in Appendix 2B. This result is in contradiction to earlier studies which showed that children had difficulty understanding and producing passives when modelling procedures were used, for example, Bandura and Harris (1966).

Pierce (1992) made use of what she refers to as “a semi-imitation elicited production task” (p. 67). In this task a child was presented with a pair of pictures, “where the pictures in each pair represented two parallel events involving different characters or objects”.

Verrips (1996, p. 73) pilot tested an Elicited Imitation task to investigate the acquisition of the impersonal passive with 24 4.0 - 7.0 children. The children were required “to repeat passives of various types of verbs, some of which do and some of which do not allow passivisation in adult Dutch”. She decided not to use the Elicited Imitation task in this instance as she felt that the experiment did not present her participants with options that would indicate their knowledge of grammatical constraints. She did, however, use an Elicited Imitation task to test the prediction whether children were applying raising to adjectives and to active and passive participles.

The historical review of the literature provided in Chapter 3 and the number of standardised speech language therapy assessments using this format has shown that Elicited Imitation is a credible way of ascertaining children’s performance on Production tasks. To recap, according to Vinther (2002) “elicited imitation has been widely debated and often criticised, but there seems now to be an agreement as to its usefulness” (p. 54). Flynn (1986) referred to the basic assumptions underlying the experimental use of Elicited Imitation as being well documented. Lust, Chien and Flynn (1987) have noted that imitation behaviour involves access to language competence in such a way that it is sensitive to grammatical knowledge. These findings add to the importance of Elicited Imitation as an assessment tool to be used to determine language impairment for Setswana-speaking children.

5.6. Summary of this Chapter

Chapter 5 provides the results of the Elicited Imitation task. Even though participants scored high on this task, developmental trends were seen amongst the age groups. There were variable results for passive categories and sentence length. The impersonal passive category was the most difficult for the participants. The results also showed that Elicited Imitation tasks can be a very useful assessment tool for Speech Language Therapists.

Chapter 6

Results and discussion of Comprehension 2 and 3 Character and Elicited Production tasks

In this chapter, I will describe and discuss the results that the participants obtained on the Comprehension 2 and Comprehension 3 Character and Elicited Production tasks. There were 18 participants in age groups 1 and 2 respectively, 26 in age group 3 and 11 adult verifiers.

The results will be described in relation to the research questions. They will also be discussed in terms of the literature. The following research questions are addressed in this chapter:

1. What are the developmental passive abilities on the passive of Setswana-speaking 2.6 to 5.5 year old preschool children?
2. What are the children's abilities on reversible, negative, non-actional and inanimate passive categories?
3. What are the children's capabilities on short versus long passives?
4. Does the felicitous condition of adding an additional character improve the participant's results on Comprehension tasks?

For all these tasks the results will be discussed in terms of these variables, i.e. the effects of age, categories and length. The results are presented in terms of means, and standard deviations are provided in the body of this chapter. Any significant interactions amongst the variables will also be described and illustrated in the Figures provided. The detailed Descriptive Statistics are presented in Appendix 5/6A.

As discussed in the method chapter, (section 4.10.2), for the Comprehension 2 and 3 Character tasks, 4 passive categories were assessed. These included reversible, negative, non -

actional and inanimate categories. The non-actional category was divided into 4 non-actional exemplars.

A single non-actional negative test stimulus was also included in the Comprehension 2 Character task, e.g., *mosetsana o ragiwa ke mosimane* ‘the girl is kicked by the boy’.

These Comprehension tasks were grouped together and are referred to as Comprehension 2 or 3 Character task Set A.

The passive categories for Set B Comprehension 2 Character tasks were: reversible, negative, non- actional and inanimate. Set A and Set B results are presented separately for the 2 Comprehension tasks.

In addition, the inanimate tasks were divided into anti-pragmatic as well as pragmatic sentences. An example of an anti-pragmatic task was *ntate o pantiwa*³² *ke lebota* ‘the father is being painted by the wall’. A pragmatic sentence was *Mpontse prema e kgarmmetswa/pushiwa ke mme* ‘Show me the pram is being pushed by the mother’

The inanimate category was omitted for Comprehension 3 Character task.

The passive categories examined in Elicited Production tasks were reversible, negative, non-actional, impersonal and inanimate categories.

Finally, the results on Comprehension 2 and Comprehension 3 categories’ tasks will be compared to each other. One of the reasons for this is to answer the question as to whether the Comprehension tasks can be used as an effective tool in facilitating comprehension of passives in Speech Language therapy. O’ Brien et al. (2006) suggest that children understand the passive better when a third character is added as this is a felicitous condition. Therefore, comparing the results will show whether the addition of the felicitous condition did help the participants on a

³² Please note the use of the non-standardised Setswana forms.

picture-selection task.

6.1. Results on Comprehension 2 Character tasks

6.1.1. Age group comparisons on Comprehension 2 Character tasks

6.1.1. (a). Set A

Table 6.1 Mean scores obtained by each age group on Comprehension 2 Character tasks Set A

AGE GROUP 1		AGE GROUP 2		AGE GROUP 3		ADULTS		
n = 18		n = 18		n = 26		n = 11		
Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std.Dev.	Mean	Std.Dev.	
Comprehension 2 character tasks reversible short sentences	0.42	0.27	0.36	0.23	0.44	0.24	0.59	0.2
Comprehension 2 character tasks reversible long sentences	0.33	0.21	0.35	0.24	0.49	0.21	0.52	0.13
Comprehension 2 character tasks negative short sentences	0.36	0.27	0.49	0.26	0.51	0.3	0.75	0.27
Comprehension 2 character tasks negative long sentences	0.29	0.2	0.53	0.24	0.51	0.26	0.68	0.2
Comprehension 2 character tasks non-actional short sentences	0.38	0.2	0.35	0.19	0.36	0.24	0.39	0.17
Comprehension 2 character tasks non-actional long sentences	0.38	0.25	0.24	0.26	0.43	0.24	0.5	0.3
Comprehension 2 character tasks non-actional negative short sentences	0.06	0.24	0.39	0.5	0.19	0.4	0.45	0.52
Comprehension 2 character tasks non-actional negative long sentences	0.44	0.51	0.56	0.51	0.38	0.5	0.36	0.5
Comprehension 2 character tasks inanimate anti-pragmatic short sentences	0.33	0.26	0.43	0.24	0.5	0.25	0.77	0.31
Comprehension 2 character tasks inanimate anti-pragmatic task long sentences	0.35	0.32	0.33	0.26	0.43	0.22	0.7	0.31
Comprehension 2 character tasks inanimate pragmatic task short sentences	0.5	0.23	0.5	0.23	0.68	0.27	0.86	0.17
Comprehension 2 character tasks inanimate pragmatic task long sentences	0.4	0.3	0.46	0.21	0.6	0.27	0.91	0.13

Table 6.1 provides a summary of the mean percentages and standard deviations for the three age groups on the Comprehension 2 Character tasks. It is clear from Table 6.1 that the participants in the older group scored much higher than the other two groups. The adult verifiers scored significantly higher than the children but did not score at ceiling. Therefore, these results show a developmental effect across the age groups.

This developmental effect was statistically significant as can be seen in Figure 6.1. The post hoc Scheffe test identified a significant difference between age groups 1 and 3 on overall performance on Comprehension 2 characters tasks for set A ($F = 2.59$; $df = 4.2472$; $p = 0.01891$). Age group 1 scored significantly lower (35%) than Group 3 (46%) as can be seen on Figure 6.1.

The scores that the participants achieved on all categories was very low and especially when compared to other tasks. There were no patterns in the errors that the children made.

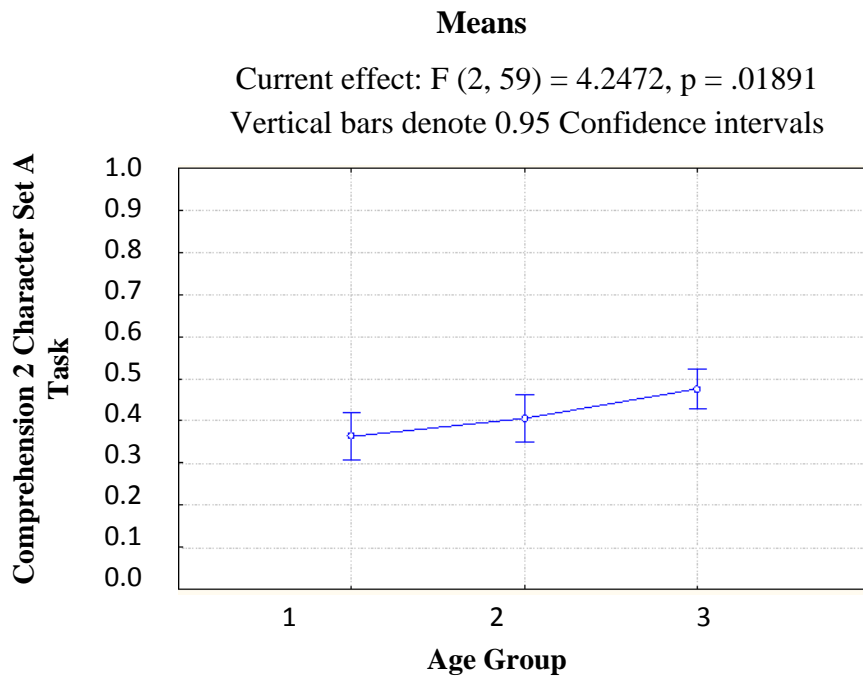


Figure 6.1 Overall mean scores obtained by each age group on Comprehension 2 Character Tasks Set A

6.1.1 (b). Set B

Table 6.2 Mean scores obtained by each age group on Comprehension 2 Character tasks Set B

	AGE GROUP 1		AGE GROUP 2		AGE GROUP 3		ADULTS	
	n = 18		n = 18		n = 26		n = 11	
	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev
Comprehension 2 character tasks reversible	0.38	0.18	0.36	0.19	0.47	0.18	0.56	0.14
Comprehension 2 character tasks negative	0.33	0.18	0.51	0.22	0.51	0.24	0.72	0.2
Comprehension 2 character tasks non-actional	0.35	0.15	0.33	0.15	0.37	0.15	0.44	0.22
Comprehension 2 character tasks inanimate	0.4	0.13	0.43	0.16	0.55	0.2	0.81	0.19

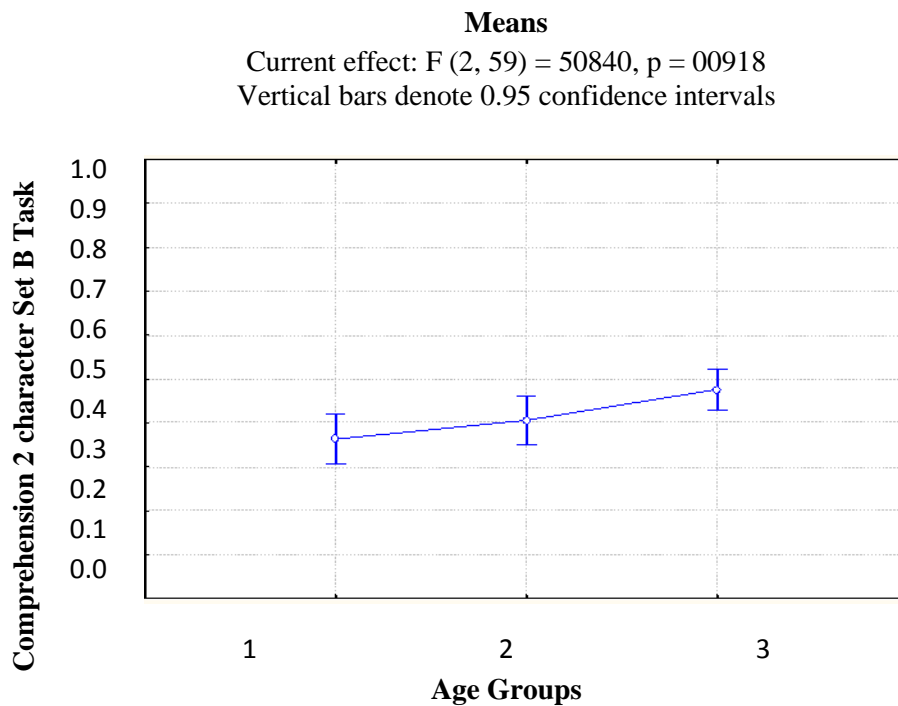


Figure 6.2 Overall mean scores obtained by each age group on Comprehension 2 character tasks Set B

Both Table 6.2. and Figure 6.2 show that the Set B results were almost identical to those for Set A, with the source of the significance once again the difference between groups 1 and 3 ($p = 0.00918$), as depicted in the line graph of the overall group means (Figure 6.2) with performance of the oldest participants significantly better than that of the youngest participants (48% versus 36% correct responses).

6.1.2. Passive category comparisons on Comprehension 2 Character tasks

6.1.2. (a). Set A

Table 6.3 Mean scores and standard deviations obtained by each age group on passive categories on Comprehension 2 Character tasks Set A

n = 73		
	Mean	Std Dev
Comprehension 2 character tasks reversible short sentences	0.44	0.25
Comprehension 2 character tasks reversible long sentences	0.42	0.22
Comprehension 2 character tasks negative short sentences	0.50	0.30
Comprehension 2 character tasks negative long sentences	0.49	0.26
Comprehension 2 character tasks non-actional short sentences	0.36	0.20
Comprehension 2 character tasks non-actional long sentences	0.38	0.27
Comprehension 2 character tasks non-actional negative short sentence	0.25	0.43
Comprehension 2 character tasks non-actional negative long sentence	0.44	0.50
Comprehension 2 character tasks inanimate antipragmatic short sentences	0.48	0.29
Comprehension 2 character tasks inanimate antipragmatic long sentences	0.43	0.29
Comprehension 2 character tasks inanimate pragmatic short sentences	0.62	0.27
Comprehension 2 character tasks inanimate pragmatic long sentences	0.56	0.30

Table 6.3 provides a summary of the mean percentages and standard deviations for the three age groups on the Comprehension 2 Character tasks. For Set A, there was a significant category effect ($F=6.2864$; $DF=5,295$; $p<0.0$). This implies a statistically significant difference in the performance levels of the participants across the six Comprehension 2 Character task in Set A. The post hoc Scheffe test revealed that performance on the pragmatic task (mean = 52%) was significantly better than on reversible passives (40%), non-actionals (35%), non-actional negatives (36%) and anti- pragmatic sentences (40%). These differences are shown graphically in Figure 6.3.

Table 6.5 ranks the performance of the participants from easiest to most difficult on passive category tasks. This table shows very clearly that there is no specific pattern of

performance amongst the age groups, passive categories or length (to be discussed later). Rather there is a great deal of variation in the scores.

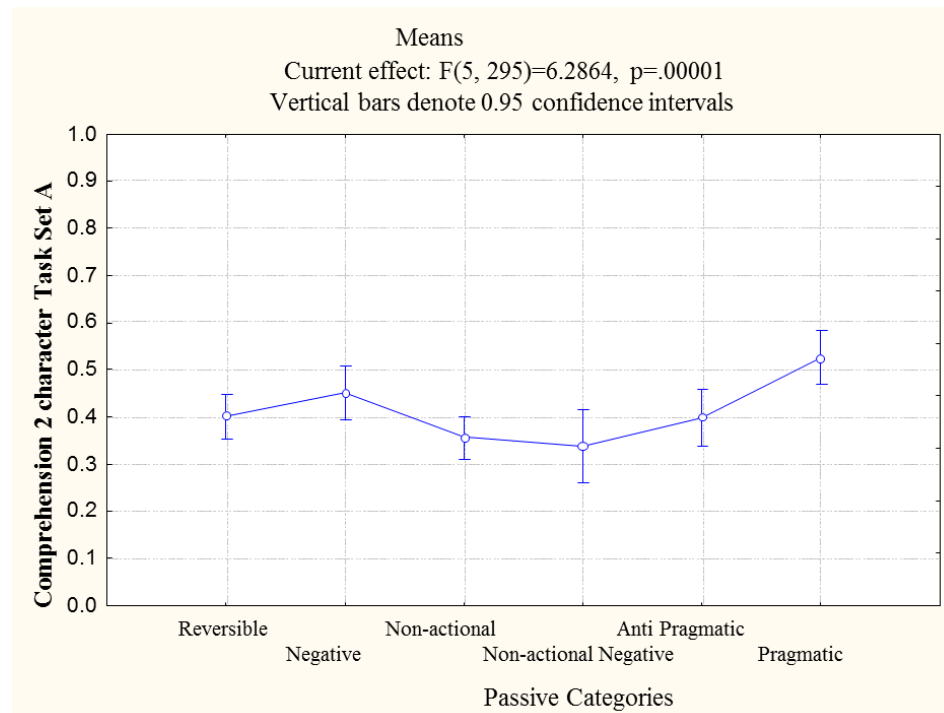


Figure 6.3 Comparison of mean scores on passive categories for Comprehension 2 Character tasks Set A

6.1.2. (b). Set B

Table 6.4 Mean scores and standard deviations obtained by each age group on passive categories on Comprehension 2 Character tasks Set B

n = 73		
	Mean	Std Dev
Comprehension 2 character tasks reversible sentences	0.43	0.19
Comprehension 2 character tasks negative sentences	0.50	0.24
Comprehension 2 character tasks non-actional sentences	0.37	0.19
Comprehension 2 character tasks non-actional negative sentences	0.34	0.33

Table 6.4 shows that the ranking for passive categories was similar on Set B and Set A.

Therefore, the participants scored best on the inanimate category with a mean of 52% .

Negatives were the next best passive category with a mean of 46%. Participants had a mean score of 43% for reversible. As in Set A, participants scored worst on the non-actional category. They achieved a mean of 36%.

A significant category effect ($F=5.9628$; $df = 3,177$; $p < 0.001$) was found on Comprehension 2 Character tasks, Set B as Figure 6.4. shows. A post hoc Scheffe test showed that performance on the non-actional category (mean = 35%) was significantly worse than negatives (mean = 46%) and inanimate tasks (mean = 47%).

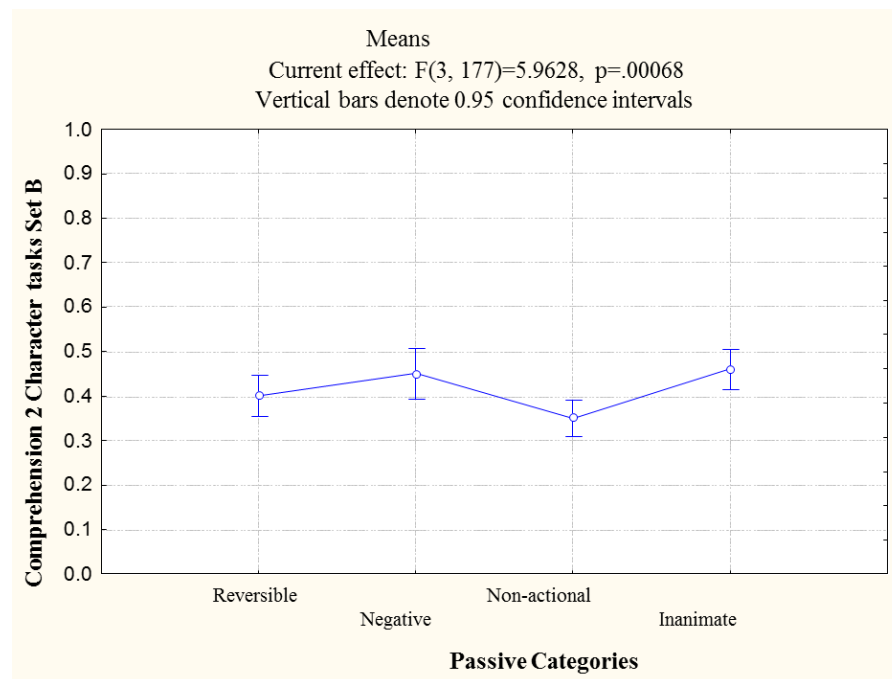


Figure 6.4 Comparison between mean scores on passive categories for Comprehension 2 Character tasks Set B

Table 6.5. Ranking of Interaction of age, passive category and length on Comprehension 2 and 3 Character and Elicited Production Tasks

Passive Category and Length Variables ranked from easiest to most difficult	Age Group 1			Age Group 2			Age Group 3		
	Comp. 2 characters	Comp. 3 characters	Elicited Product	Comp. 2 characters	Comp. 3 characters	Elicited Product	Comp. 2 characters	Comp. 3 characters	Elicited Product
	Reversible Short Inanimate Short	Reversible Short	Inanimate Long	Negative Long	Reversible Long	Inanimate Long	Negative Long	Negative Short	Inanimate Long
	Inanimate Long	Non- Actional Short	Reversible Long	Negative Short	Negative Long	Reversible Long	Negative Short Inanimate Short	Negative Long	Negative Long
	Non- actional Long	Negative Short	Negative Long	Inanimate Short	Negative Short	Negative Long	Inanimate Long	Reversible Long	Negative Short
		Negative Long							
		Non- actional Long							
	Reversible	Reversible Long	Non- Actional Long	Inanimate Long	Reversible Short	Non- Actional Long	Reversible Short Non- Actional Short	Reversible Short	Reversible Long
	Long								Inanimate Short
	Negative Short		Inanimate Short	Reversible Short	Non- Actional Long	Inanimate Short	Reversible Long	Non- Actional Long	Reversible Short Impersonal Long
	Non- Actional Short		Negative Short Impersonal Long	Non- Actional Short	Non- Actional Short	Negative Short Impersonal Long	Non- Actional Long	Non- Actional Short	Non- Actional Long
	Negative Long		Reversible Short	Reversible Long		Reversible Short			Non- Actional Short
			Non- actional Short			Non- Actional Short			Impersonal
			Impersonal Short			Impersonal Short			Short
				Non- Actional Long					

Key: Comp. 2 = Comprehension 2 Characters task

Comp. 3 = Comprehension 3 Characters task

Elicited Product = Elicited Production task

Table 6.5 shows that there were no real patterns in the Interaction of age, passive category and length on Comprehension 2 and 3 Character and Elicited Production Tasks.

The only clear result that can be seen is that the participants performed the worst on impersonal tasks.

6.1.3. Interaction between age and category on Comprehension 2 Character Set A and B

The interaction between age and category for Sets A and B shows variable results both within and across age groups. The results of the group of 11 adult verifiers were also included.

Although the adults scored better than the three groups of children they did not score at ceiling, particularly for non-actional negative long (mean = 36%) and non-actional short sentences (mean = 39%). Demuth et al. (2009) also found that adults did not perform at ceiling for non-actional passives. These authors attribute the adults' poor performance on non-actional tasks to the 2 picture selection task and experimental artefact. Crawford (2012) found that her adult verifiers did score at ceiling for all categories of passive verbs.

Except for the issue of task described above, the fact that adults did not achieve ceiling scores for comprehension tasks calls into question the claims that are made in the literature that the passive is an early acquired structure in the Bantu languages (Alcock et al. 2011; Demuth, 1989; Demuth et al. 2009, 2010 and Suzman, 1985, 1987 and 1990).

The performances on Comprehension 2 Character tasks were significantly different between age group 3 and adults as can be seen in Figure 6.5.

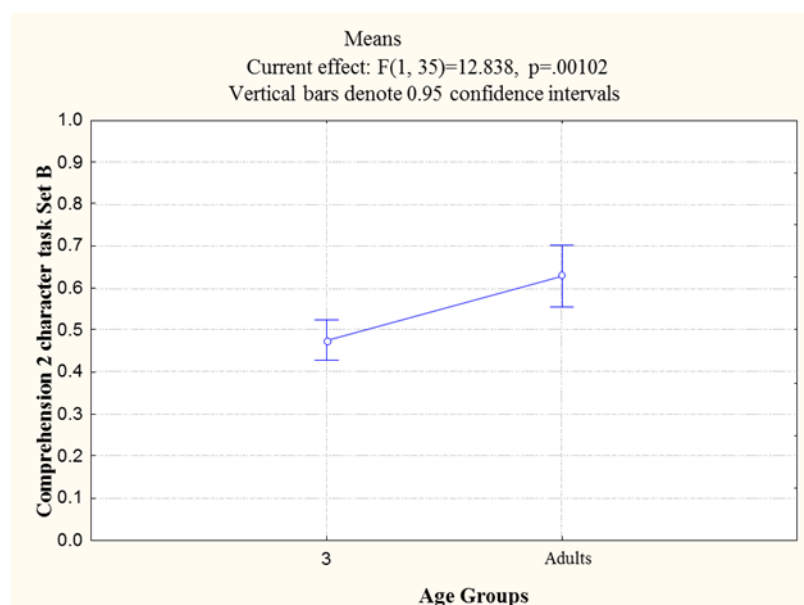


Figure 6.5 Interaction between age and category for age group 3 versus adults on Comprehension 2 Character tasks

6.1.4. Effects of length on Comprehension 2 Character tasks³³

Table 6.6 Comparison between short and long passives on Comprehension 2 Character tasks

	Mean	Standard Deviation
Comprehension 2 character tasks Short sentences	0.47	0.16
Comprehension 2 character tasks Long sentences	0.45	0.15

The data in Table 6.6 show that the 73 participants achieved a total mean score of 0.47 for all short sentences on the Comprehension 2 character task. The results for long sentences were almost identical as participants scored a mean of 0.45.

However, a significant short/long interaction was found. As shown in Figure 6.6, the greatest deviation in the parallelism of the three lines was the non-actional negative item, where the post hoc Scheffe test showed performance to be significantly better for the short rather than

³³ The length variable was calculated as a whole for the task and not divided into Set A and Set B.

the long sentence ($p < 0.01$). There was no significant difference on any of the other categories in terms of length for Comprehension 2 character tasks.

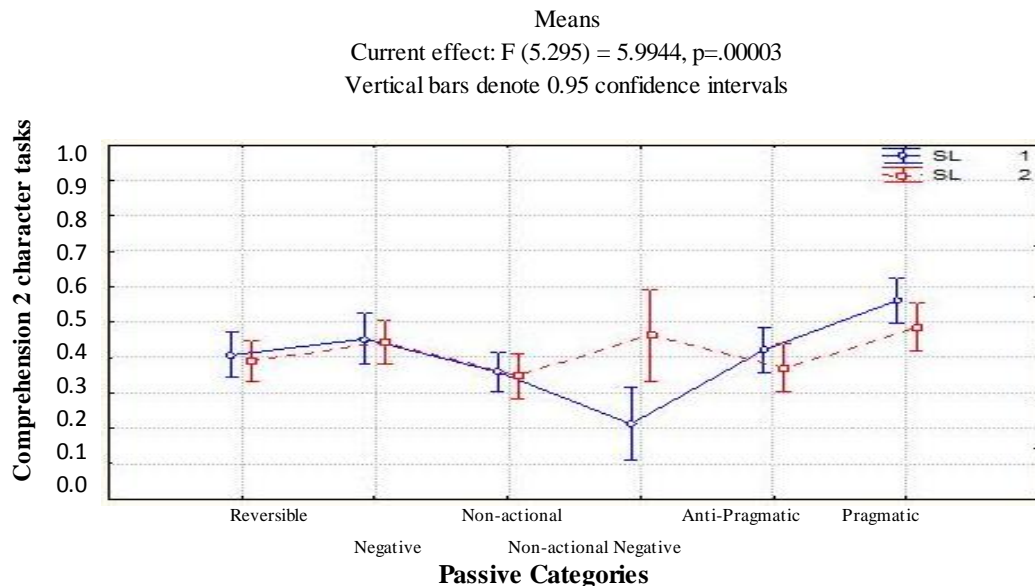


Figure 6.6 Mean scores on short and long passives on Comprehension 2 Character tasks Set A

6.1.4. Discussion on Comprehension 2 Character tasks

6.1.4. (a). Age

The current results correspond to findings of other studies in Zulu and Sesotho using cross-sectional designs. For example, in isiZulu, Stephen (1988) found a developmental trend in her study of children's comprehension of the passive at age 3 and age 4. They also correspond to the results I found on my study of Zulu/English and Sesotho/ Zulu (Bortz, 1998), i.e., that the three age groups of children's performance improved from the youngest to the oldest group. However, none of the participants in this study had fully acquired passives by age 5.5 years.

In her study, Crawford (2008) found similar results. 12 Sesotho-speaking children aged between 3.4 to 6.10 years with a mean age of 5.11 years, did not show adult-like performance on passives.

The fact that there is a developmental trend and the participants have not reached a ceiling in the five year old age group is opposite to the findings of Demuth (1989, 1990, and 1992) and Demuth et al. (2009, 2010) in Setswana and Suzman (1985, 1987, 1990) in Zulu. In both Sesotho and Zulu, children as young as 2.8, have begun to comprehend the passive. The 3-year-old children in Demuth et al.'s study (2009, 2010) scored at 73% on the picture selection task (choice of two pictures). In the picture selection task in the current study participants had to choose amongst four pictures making the task more difficult.

The current study indicates that Setswana-speaking children still have not fully acquired the passive by age 5.5 years. These results, though contrary to most findings in Sesotho and Zulu, are compatible with results in many other languages, for example, the 11 languages studied by Armon et al. (in press) [Estonian, Finnish, Cypriot Greek, Catalan, Danish, Dutch, English, German, Hebrew, Lithuanian and Polish].

The current results are also in keeping with many of the studies conducted from the 1970s through the late 1990s, for example in Dutch (Verrips, 1996), Pierce (1992) in Spanish, Mills (1985) German, Berman (1985) in Hebrew and many in English (DeVilliers and DeVilliers, 1973; Fox and Grodzinsky, 1990, Horgan, 1978 and Gordon and Chafetz, 1990).

The fact that children could not yet comprehend the passive by age 5.5 years supports the A-chain Deficit Hypothesis. As mentioned in the literature review, the A-chain Deficit Hypothesis claims that it is only with linguistic maturation that children can learn the passive. The reason for this is that they are not born with the capacity to form the A-chains which underlie the subject and object position. A-chains are not innate, neither is it learned but rather it matures. Wexler (2007) has stated that English-speaking children have only fully acquired the passive by age 7 years.

6.1.4 (b). Passive categories

The scores of the participants in age group 2, the middle age group (3.6 – 4.5 years), differed greatly across categories. On the negative category, the children in the middle age group performed significantly better than the oldest group.

However, on both the reversible and non-actional tasks age group two scores were worse than that of age group 1. Bever (1970) and Maratsos (1972) both found that their participants' performance was worse as they approached age 4 years. Maratsos (1972) found that from age 3.4 years to 3.7 years his subjects' performance dipped on act-out comprehension tasks. Bever hypothesised that the reason for this dip in performance was that children were over-generalising active sentences.

It is only on the inanimate tasks that the three groups performed according to a developmental pattern.

For both Set A and Set B Comprehension tasks the children scored best on the inanimate category. I believe that the reason for this is that inanimate tasks are easier than categories such as reversible or non-actional as there is only 1 character in these sentences.

The results of both Set A and Set B Comprehension 2 Character tasks showed the most variability for negative categories. This is an interesting result because authors such as Suzman (1987) as well as Sugasaki (1998) have described the negative passive as being an early developing form. Crawford (2012) claims that the category of negative passives may be considered as telic. Telicity refers to tense and aspect and has a natural end-point. Telic verbs tend to be actional verbs, for example, hitting and pushing. Therefore, J.L Crawford (personal communication, June 25, 2012) claims that children would score better on telics as they are not non-actional verbs.

The fact that the participants in this study performed the worst on non-actional tasks is backed up by several other studies found in the literature. The participants in Crawford's (2008) study performed much better on actional than non-actional passives, with adults only scoring 70% on non-actional tasks. Maratsos, Becker and Chalkley (1985) also found that children were "consistently poorer in comprehending the mental verb passives" (p. 167). In addition, Fox and Grodzinsky (1998) and Hirsch and Wexler (2004, 2006) found that children experience problems with understanding non-actional full passives at age five years. As mentioned in the literature review, Borer and Wexler (1987) and Hirsch and Wexler (2004, 2006) suggest that children's difficulty with long non-actional sentences supports the A-chain deficit hypothesis.

Although the findings of this current study for non-actional tasks are worse than those found by Demuth et al. (2009, 2010), they do follow the trend found by Demuth et al. where children had difficulty pointing to non-actional verbs. As mentioned previously, Demuth et al. (2009) also found that both children and adults performed worse on non-actional verbs when compared to actional verbs. These authors suggest that "some of the lower performance on non-actional verbs often reported in the acquisition literature may, therefore, be due to experimental artefact (less than ideal depiction) rather than due to incomplete syntactic competence" (p. 19). Demuth et al. (2009) found that their participants had specific difficulty with the item *thusa* 'help' and *bona* 'see'.

6.1.4. (c). Length

Orfitelli (2012) using a 2-picture selection task found that children aged from 4 to 6 years scored from 80 to 100% for active and actional, short and long passives. However, for non-actional short and long passives the scores for 4 year old children dropped to below chance (34

and 38% for short and long non-actionals. For five year olds, these scores dropped to 47 and 39% for short and long non-actionals.

As discussed in Chapter 2, the literature is divided about whether children find short or long passives easier, especially when the length variable is associated with the non-actional category of passives (Slobin, 1968; Maratsos and Abramovich, 1975; Terzi and Wexler, 2002) with no definitive answer being provided. Orfitelli (2012) depicts this debate succinctly in Tables 6.6 and 6.7 which follow.

Crawford (2012) reports on critics who claim that two-choice picture selection tasks have been found to reduce performance on all types of passive. The fact that I have used four-choice picture selection tasks, therefore, can only serve to deflate the comprehension task scores even further.

Table 6.7 Comprehension of short non-actional passives by study

Above chance performance			Below chance/chance performance		
Authors	Method	Language	Authors	Method	
Fox and Grodzinsky (1998) 8 of 13 children	Truth Value Judgement Task [TVJT]	English	Fox and Grodzinsky (1998) 5 of 13 children	TVJT	English
O' Brien et al. (2006)	TVJT	English	Hirsch and Wexler (2004, 2006)	Picture Selection	English
Gordon and Chafetz (1990)	TVJT	English			
Demuth et al. (2009, 2010)	Picture Selection	Sesotho	Crawford (2012)	Picture Selection	Sesotho

Table 6.8 Comprehension of long non-actional passives by study

Above chance performance			Below chance/chance performance		
O' Brien et al. (2006)	TVJT	English	Fox and Grodzinsky (1998)	TVJT	English
Demuth et al. (2009, 2010)	Picture Selection	Sesotho	Maratsos et al. (1985)	Question/Answer	English
			Hirsch and Wexler (2006)	Picture selection	English

In addition, Armon-Lotem et al. (in press) undertook their cross-linguistic study of 11 languages specifically to determine “whether and if so, to what extent the short passive and full passive are understood by 5-years-olds and whether the full passive is more difficult than the short passive” (p. 3). The results of this massive study showed that in most of the 11 languages it was more difficult for children to understand long passives than short passives. The age of development of the long passive also varied according to language. In Catalan, Hebrew and Lithuanian children had not yet begun to develop the long passive by age 5 years. However, in languages such as Danish, Dutch English, German and Polish they have nearly acquired the long passive by 5 years.

6.2. Results on Comprehension 3 Character tasks

The results of the second picture selection task, Comprehension with 3 characters will now be presented. The third character represents a felicitous condition.

6.2.1. Age group comparisons on Comprehension 3 Character tasks

6.2.1. (a). Set A

Table 6.9 Mean scores obtained by each age group on Comprehension 3 Character tasks Set A

	Age Group 1		Age Group 2		Age Group 3		Age Group Adults	
	n 18		n 18		n 26		n 11	
	Mean	Std. Dev	Mean	Std. Dev	Mean	Std. Dev	Mean	Std. Dev
Comprehension 3 character tasks reversible short sentences	0.38	0.23	0.33	0.28	0.43	0.22	0.50	0.35
Comprehension 3 character tasks reversible long sentences	0.24	0.22	0.47	0.31	0.33	0.27	0.43	0.30
Comprehension 3 character tasks negative short sentences	0.26	0.18	0.40	0.33	0.50	0.33	0.59	0.42
Comprehension 3 character tasks negative long sentences	0.26	0.20	0.46	0.31	0.49	0.30	0.52	0.41
Comprehension 3 character tasks non-actional short sentences	0.31	0.26	0.26	0.27	0.38	0.24	0.33	0.35
Comprehension 3 character tasks non-actional long sentences	0.32	0.22	0.27	0.26	0.42	0.25	0.33	0.33
Comprehension 3 character tasks non-actional negative short sentences	0.32	0.25	0.25	0.27	0.41	0.23	0.32	0.36
Comprehension 3 character tasks non-actional negative long sentences	0.26	0.22	0.25	0.24	0.38	0.29	0.34	0.32

Table 6.9 and Figure 6.7 provides the mean scores obtained by the participants on the Comprehension 3 Character task Set A.

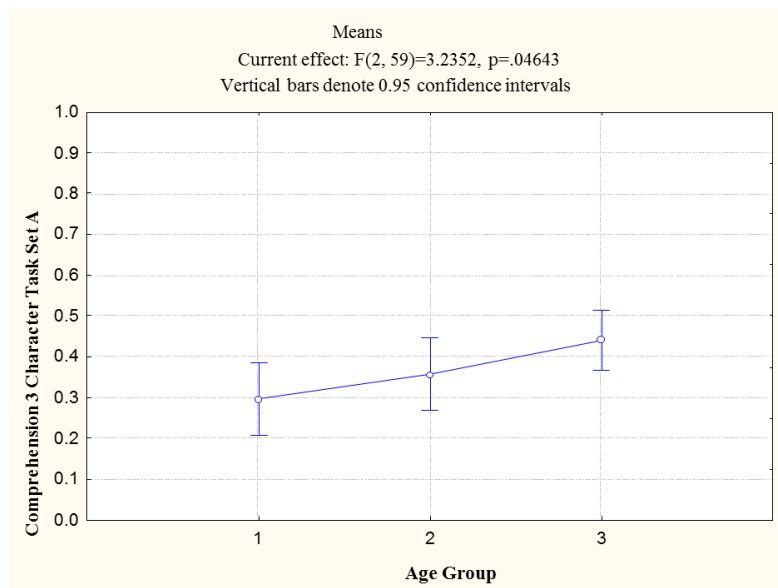


Figure 6.7 Mean scores of each age group on Comprehension 3 tasks Set A

The age group effect is just significant ($F = 3.2352$; $df = 2.59$; $p < 0.05$). However, the post hoc Scheffe test shows no significant pair-wise comparisons, with the difference between age group 1 and age group 3 only approaching significance as can be seen in Table 6.9 and Figure 6.7. When these scores are compared to those obtained on Comprehension 2 Character task which can be seen in Table 6.1, it can be seen that the results are very similar.

6.2.1.(b). Set B

Table 6.10 Mean scores obtained by each age group on Comprehension 3 Character tasks Set B

Age Group 1		Age Group 2		Age Group 3		Adults		
n = 18		n = 18		n = 26		n = 11		
Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Comprehension 3 character tasks reversible sentences	0.31	0.19	0.4	0.26	0.44	0.21	0.47	0.31
Comprehension 3 character tasks negative sentences	0.27	0.17	0.43	0.29	0.5	0.28	0.56	0.39
Comprehension 3 character tasks non-actional sentences	0.32	0.2	0.26	0.23	0.4	0.21	0.33	0.32

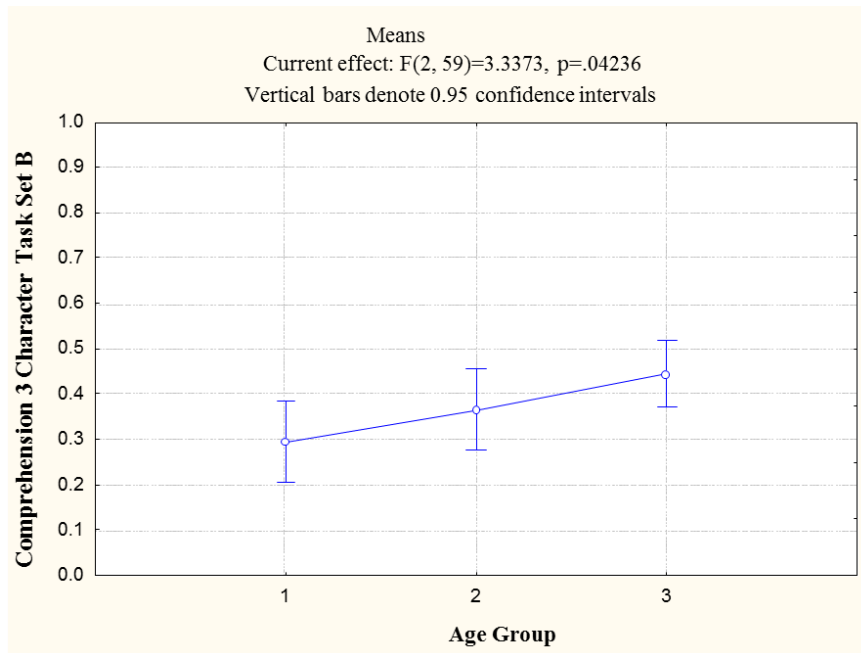


Figure 6.8 Mean scores of each age groups on Comprehension 3 Character tasks Set B

Table 6.10 and Figure 6.8 show the results according to age on Comprehension 3 Character task Set B. The post hoc Scheffe test showed that age groups 1 and 3 differ significantly in their performance with means of 30% and 45% respectively.

6.2.2. Passive category comparisons on Comprehension 3 Character tasks

6.2.2. (a). Set A

Table 6.11 Mean scores on each passive category on Comprehension 3 Character tasks Set A

	n = 73	
	Mean	Std Dev
Comprehension 3 character tasks reversible short passives	0.40	0.26
Comprehension 3 character tasks reversible long passives	0.40	0.28
Comprehension 3 character tasks negative short passives	0.43	0.33
Comprehension 3 character tasks negative long passives	0.43	0.31
Comprehension 3 character tasks non-actional short passives	0.33	0.27
Comprehension 3 character tasks non-actional long passives	0.34	0.26
Comprehension 3 character tasks non-actional negative short passives	0.29	0.46
Comprehension 3 character tasks non-actional negative long passives	0.45	0.50

Most of the participants achieved a mean score of 0.40 on reversible and negative short and long sentences as Table 6.11 shows. The children scored the best on the negative non-actional long sentence (mean 0.45). Thereafter, they scored at 43% on negative short and long sentences. A mean of 0.40 were obtained on reversible short sentences. The children scored the worst on non-actional short (mean 0.27) and long sentences (mean 0.25).

6.2.2. (b). Set B

Table 6.12 Mean scores on each passive categories on Comprehension 3 Character tasks Set B

n = 73		
	Mean	Std Dev
Comprehension 3 character tasks reversible sentences	0.40	0.24
Comprehension 3 character tasks negative sentences	0.43	0.29
Comprehension 3 character tasks non-actional sentences	0.33	0.23

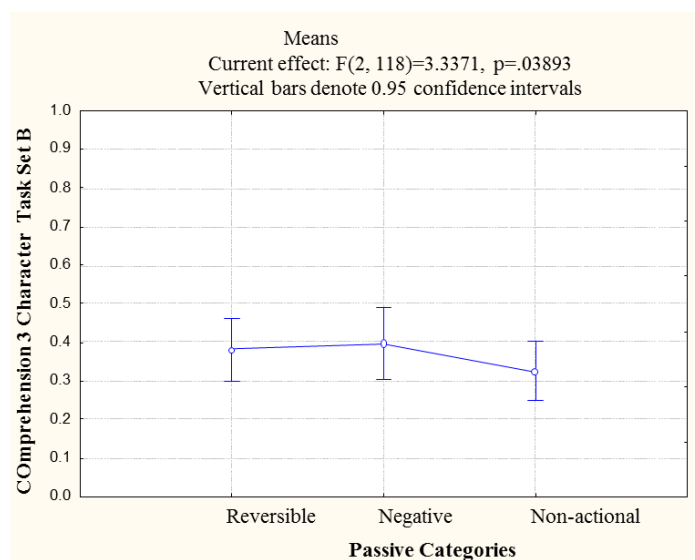


Figure 6.9 Mean scores for passive categories on Comprehension 3 Character tasks Set B

Table 6.12 and Figure 6.9 show that like Set A, the children scored the best on negative sentences (mean 0.43). Next best performance was achieved on reversible sentences (means of 0.40). The participants again scored worst on non-actional categories with mean score of 0.43.

There was a significant category effect $F(4, 118) = 2.6260, p = 0.3803$, showing significantly different performance levels on reversible, negative and non-actional passive categories. The post hoc Scheffe test results show the significant difference ($p < 0.05$) between performances on negative versus non-actional tasks only. Non-actional tasks, therefore, appear to be more difficult than tasks involving negatives.

6.2.3. (a). Interaction between age and passive categories Set A

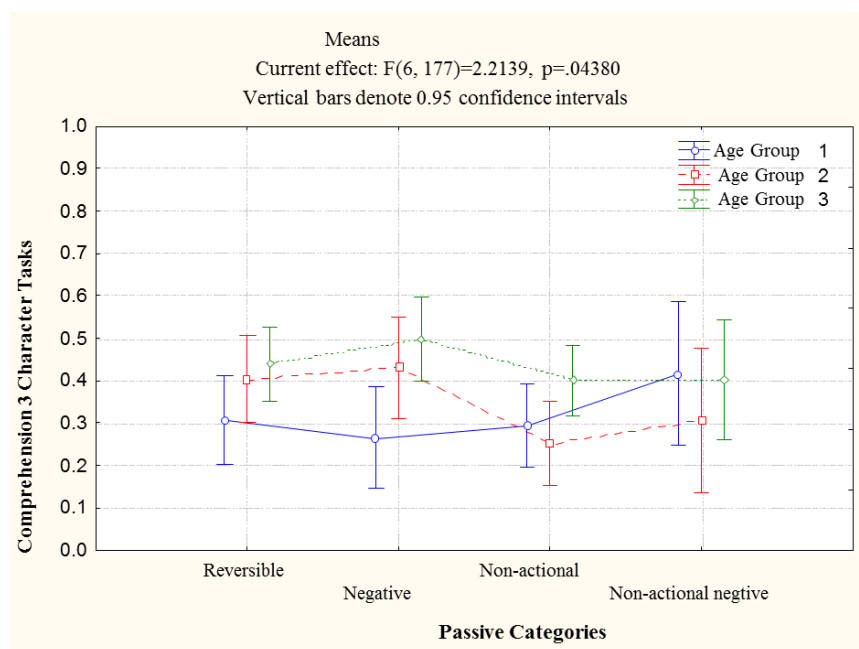


Figure 6.10 Interaction between age and passive categories on Comprehension 3 Character tasks Set A

Figure 6.10 shows a significant age group effect at the $p < 0.05$ level. The line plots show that age group 1 performed the best of the three age groups on non-actional negative tasks only, while performing relatively poorly on the other tasks.

6.2.3. (b). Set B

Figure 6.11 strongly suggests both significant age and passive categories interaction ($p < 0.05$). These can also be seen in the line plots. The source of the significance is the good performance of age group 1 on non-actional tasks. The order of the means of the age groups on tasks involving reversibles and negatives is different from the order on non-actional tasks.

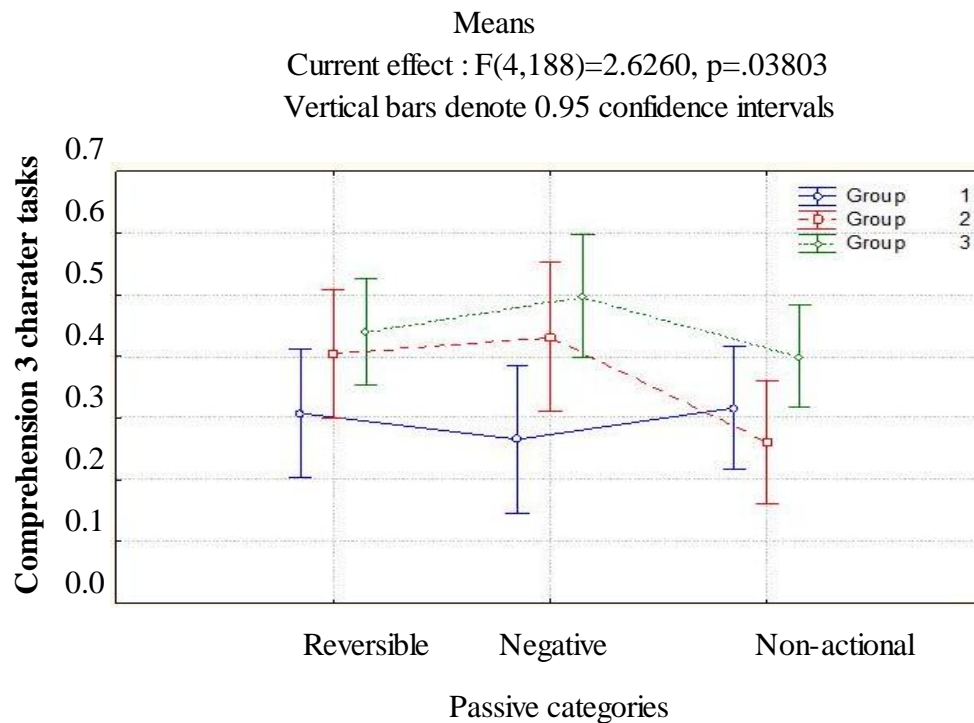


Figure 6.11 Interaction between age and passive categories Comprehension 3 Character tasks Set A

6.2.4. Effect of Length on Comprehension 3 Character tasks

Table 6.13 Results on short and long passives for Comprehension 3 Character tasks

	Mean	Standard deviation
Comprehension 3 character short sentences	0.38	0.23
Comprehension 3 character long sentences	0.39	0.23

The results in Table 6.13 show that mean scores were 0.38 and 0.39. A significant sentence length interaction was found between short and long sentences for Comprehension 3 Character tasks ($F=4.174$; $df=3,177$; $p<0.01$) as can be seen in Figure 6.12. In this instance, as for Comprehension 2 Character task, the mean score on the short sentence was again significantly lower than on the non-actional negative sentence. The difference in these two sets is again attributable to the non-actional negative item. There were no significant differences for length on the reversible, negative or non-actional categories.

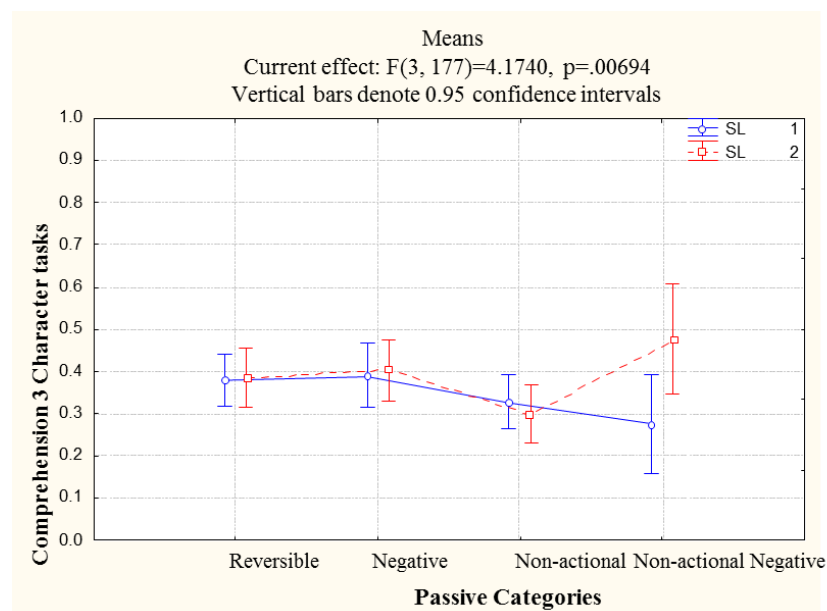


Figure 6.12 Interaction between passive categories and length Comprehension 3 Character tasks

6.2.5. Comparison between scores on Comprehension 2 and 3 Character tasks

Table 6.14 Comparison between scores on Comprehension 2 and 3 Character tasks

	Means	Standard deviation
Comprehension 2 Character task	0.46	0.15
Comprehension 3 Character task	0.38	0.22

The scores in Table 6.14 show that the children scored higher on Comprehension 2 Character tasks (mean 0.46). For Comprehension 3 Character tasks they achieved a mean score of 0.38. However, the difference between the 2 and 3 Character tasks was not significant.

These results, therefore, show that children did not perform any better when the third character was added. Therefore, the addition of the third character did not act as a felicitous condition as it did with O'Brien et al.'s (2006) subjects. In fact, the research assistants reported that the third character seemed to confuse the participants of this study (N Shika. personal communication, June 12, 2009).

These results are similar to those found by Demuth et al. (2009, 2010). Demuth et al. (2009) commented that their participants "did not appear to use the third character in the scene in determining which picture to point to" (p.21). Armon et al. (in press) used the third character as part of their test procedure. They did not use any other method of testing and did not comment on whether this method of testing was beneficial or not.

The fact that Comprehension 3 Character tasks did not provide different results from Comprehension 2 Character tasks provides part of an answer to research question 4 which was whether the passive can be used as an effective tool in speech language pathology. The answer would be that Comprehension 3 Character tasks are not an effective tool to use in speech-language pathology. Picture selection tasks with 2 Character tasks are a sufficiently effective tool to assess comprehension of the passive.

In addition, Rubin (2009) found that 47.91% of her 48 Portuguese-speaking children aged between 3 to 5 years did not understand long passives. However, some of the children also had difficulty comprehending the short passive. Rubin has drawn interesting conclusions differentiating between children who score at chance on picture selection tasks or below chance. She concludes that “below chance results seem to indicate interpretation of the passive as active” (p. 442), whereas chance results show that the child is uncertain of how to interpret the construction. I cannot apply Rubin’s results to my study as I used a four picture selection task where chance was at 25%.

However, the participants of my study scored at approximately 50%, this finding implies that these children do not know how to interpret the passive construction.

The other interesting result for the Comprehension 3 Character task was the fact that participants performed significantly better on non-actional negative tasks than any other category of passive as seen in Set A tasks. It is a limitation of this study that this result cannot be generalized as only one non-actional negative stimulus was included.

6.3. Comparison between Comprehension 2 and 3 Character tasks

Statistical analysis revealed that there were no significant differences between Comprehension 2 and 3 characters. Therefore, using the felicitous condition of adding an extra character described by O’Brien et al. (2006) was not useful in a picture selection tasks. These results are similar to those found by Demuth et al. (2009, 2010). Demuth described her participants not using the third character in the scene to assist them in knowing which picture to point to.

6.4. Elicited Production tasks

6.4.1 Age group comparisons on Elicited Production tasks

Table 6.15 Comparison between age groups on the Elicited Production tasks

		Age Group 1		Age Group 2		Age Group 3		Age Group Adults	
		n = 18		n = 18		n = 26		n = 11	
		Mean	Std Dev	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev
Elicited Production Sentences	Reversible Short	0.01	0.06	0.04	0.10	0.08	0.14	0.05	0.10
Elicited Production Sentences	Reversible Long	0.14	0.20	0.13	0.15	0.13	0.19	0.48	0.33
Elicited Production Sentences	Negative Short	0.03	0.08	0.08	0.19	0.16	0.24	0.02	0.08
Elicited Production Sentences	Negative Long	0.11	0.20	0.07	0.14	0.17	0.18	0.57	0.45
Elicited Production Sentences	Non-actional Short	0.01	0.06	0.03	0.08	0.08	0.12	0.05	0.10
Elicited Production Sentences	Non-actional Long	0.06	0.14	0.08	0.15	0.10	0.16	0.36	0.36
Elicited Production Sentences	Impersonal Short	0.01	0.06	0.03	0.12	0.05	0.10	0.00	0.00
Elicited Production Sentences	Impersonal Long	0.03	0.08	0.04	0.10	0.09	0.14	0.18	0.20
Elicited Production Sentences	Inanimate Short	0.04	0.13	0.14	0.26	0.13	0.21	0.09	0.17
Elicited Production Sentences	Inanimate Long	0.18	0.22	0.15	0.21	0.23	0.32	0.04	0.45

The coding for scoring of the Elicited Production task can be seen in Chapter 4, section 4.9. This section deals with comparisons within age groups. Table 6.15 shows that on the Elicited Production tasks the participants in the youngest age group generally achieved the lowest means. For example on reversible short sentences a mean of 0.01 was achieved. However, on reversible long sentences (mean = 0.14), negative long sentences (mean = 0.11) and inanimate long (mean = 0.18). On the inanimate long sentences, the younger group scored higher than the middle age group.

However, for the remainder of the middle age group they scored better than the younger age group. The middle age group also scored equal to the oldest group on reversible long sentences (mean = 0.13). They also scored higher than the oldest group on inanimate short sentences (mean = 0.14). The oldest group scored a mean of 0.13 and a standard deviation of

0.21. Age group 3 scored the best for all the tasks. This result is to be expected and suggests a developmental trend in the acquisition of the passive on Elicited Production tasks.

A 1-way ANOVA was computed to compare the performance of participants in the three age groups on their overall performance on Elicited Production. There was no significant difference between the mean performance levels of the three age groups on Elicited Production ($F = 2.6869$; $df = 2, 59$; $p = .07642$). However, it is possible to see a developmental trend with age group 2 (mean = 9%) performing better than age group 1 (mean = 8%) and those in age group 3 performing the best (mean = 12%).

Age group 3 participants differed significantly from the adults on all the Elicited Production tasks, with mean performances of 0.12 and a mean 0.23 for adult participants as Figure 6.11. shows. Even though the adults performed better than the 4.6 to 5.5 year old children, their maximum performance did not exceed 40% for all tasks.

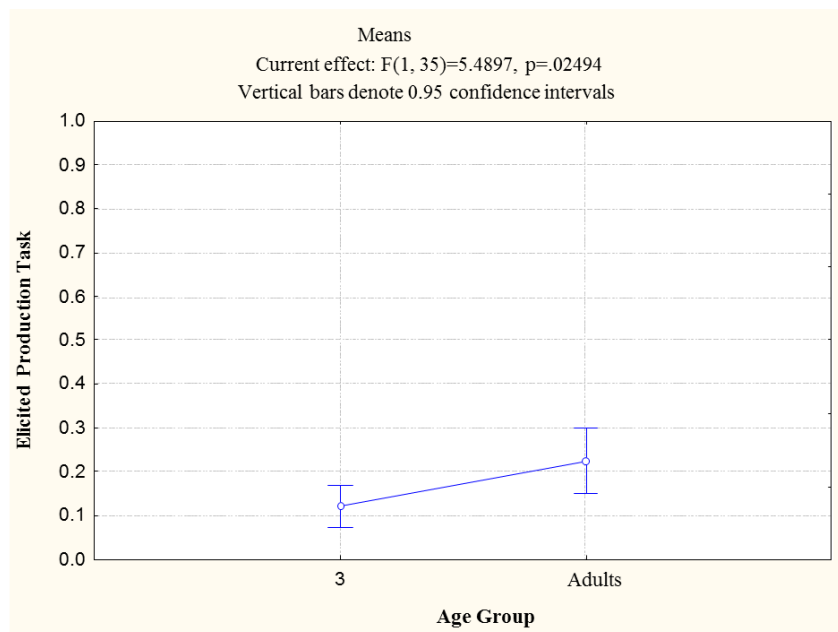


Figure 6.13 Comparison of performance of age group 3 and adult verifiers on Elicited Production tasks

This result, thus, shows very clearly that the Elicited Production task was not a suitable task for the participants.

6.4.2. Passive category comparisons on Elicited Production tasks

Table 6.16 Results of Elicited Production tasks for the passive category variable

n = 73		
	Means	Std Dev
Elicited Production Reversible Sentences	0.12	0.14
Elicited Production Negative Sentences	0.14	0.18
Elicited Production Non-actional Sentences	0.08	0.12
Elicited Production Impersonal Sentences	0.05	0.08
Elicited Production Inanimate Sentences	0.17	0.19

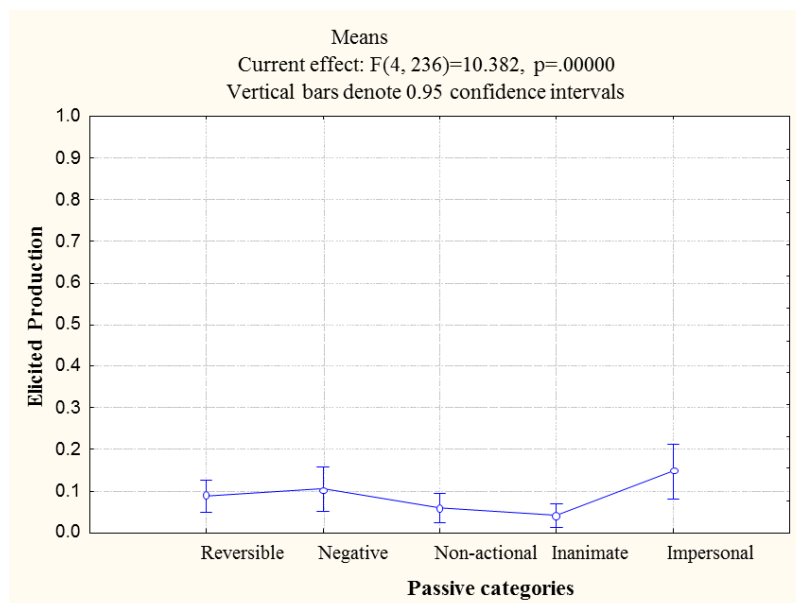


Figure 6.14 Mean performances on the passive categories on the Elicited Production tasks

Table 6.16 and Figure 6.14 provide the results that the participants scored on passive categories for the Elicited Production task. There was a significant category effect ($F=10.382$; $df=4,236$; $p<0.0$). This implies a statistically significant difference in the performance levels of the participants across the five passive categories. The post hoc Scheffe comparison showed that

the mean for the inanimate passive category was (mean = 0.15). This score was significantly different from the means of the reversible passive category (mean = 0.9), non-actional passive category (mean = 0.6) and impersonal category (mean = 0.4). The mean of the negative passive category (mean = 0.11) is significantly different from the impersonal category (mean = 0.4).

For the adult verifiers, the post hoc Scheffe results indicated a significant difference between the performance levels of age group 3 and adult participants achieving a mean of 0.21 on negative passive categories compared to a mean of 0.7 on the impersonal passive category task.

These results show that participants performed the best on inanimate tasks, followed by negative tasks. Both the Williams syndrome and typically developing participants in Bartke's (2004) study performed better on "irreversible sentences [inanimate]" (p. 356) than reversible sentences. Bartke believes that this is because "reversible sentences are more vulnerable to misinterpretation than irreversible sentences" (p. 355).

The result that the children performed second best on the negative category differs from the result of Demuth et al.'s (2009) study where children scored 97% for negatives and 96% for reversible passives. These authors specifically investigated whether the negative passives resulted in earlier acquisition as suggested by Sugisaki (1999) and mentioned in Chapter 2, Section 2.3.2 on negative passives. They did this by constructing half of their stimuli as neutrally affected patients e.g. *meta* 'kiss' and a negatively affected patient e.g. *hlaba* 'stab'. As can be seen by the results Demuth et al.'s participants showed no effect on neutrally (mean = 96%) or negatively affected patients (mean = 97%)

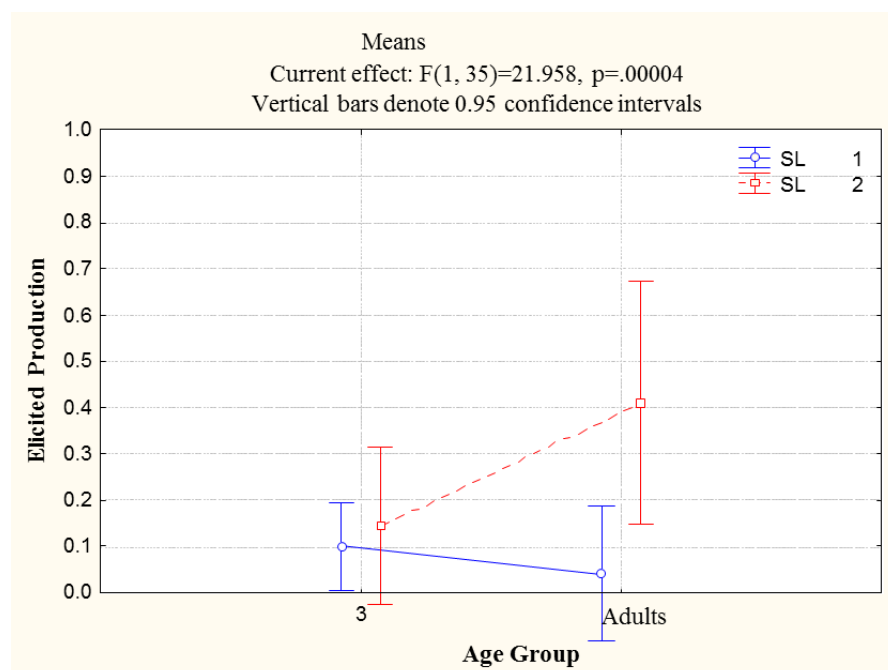
Participants in the current study performed the worst on the impersonal passive category tasks. This is the same result obtained on the Elicited Production tasks.

6.4.3. The effect of length on Elicited Production tasks

Table 6. 17 Performance on short versus long passive on the Elicited Production tasks

	Mean	Std Dev
Elicited Production tasks Short sentences	0.6	0.11
Elicited Production tasks Long sentences	0.16	0.19

Table 6.17 shows that the participants demonstrated higher scores for long passive sentences (mean = 0.16) than short sentences (mean = 0.6). However, these scores remain low.



Key: SL = Short long sentences

1 = Age Group 3

2 = Adults

Figure 6.15 Comparison of performance of Group 3 and Adults on length variable for Elicited Production

There was a significant performance difference between the age group 3 and adults as can be seen on Figure 6.15. This difference was dependent on whether the tasks involved short versus long sentences, with sentence length making virtually no difference to the (poor)

performance of age group 3 participants (means of 0.10 and 0.14 respectively). These scores affect the performance of adults, as the mean performance of adults is better on tasks involving long sentences than on tasks involving short sentences (means = 0.4) on short and long sentence length tasks respectively.

6.4.4. Interaction between passive categories and length on Elicited Production tasks

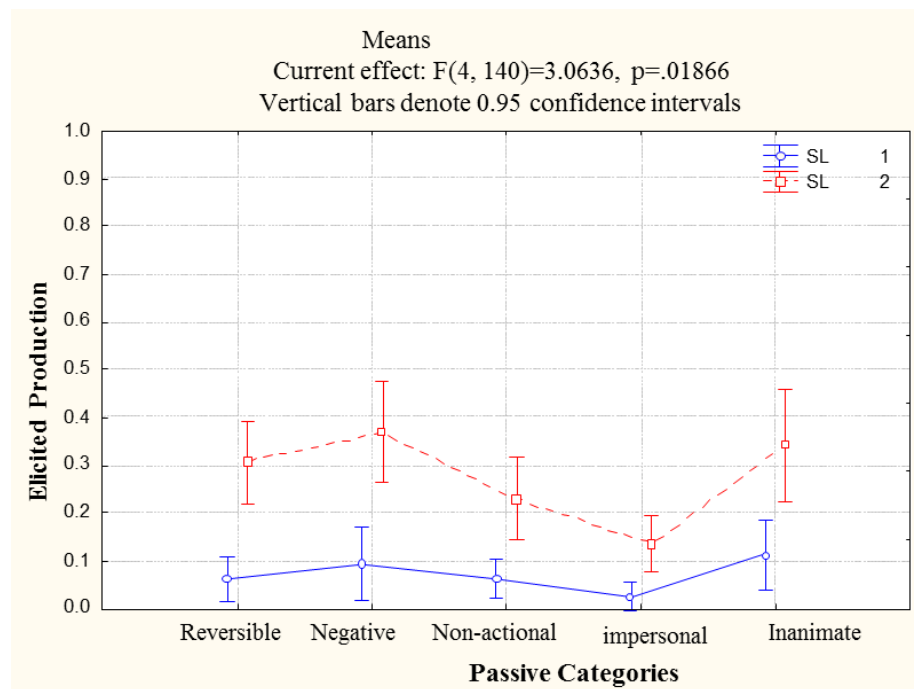


Figure 6.16 Comparison of performances of Group 3 and Adults on Short versus Long tasks of Elicited Production

Figure 6.16 shows the interaction between the passive category and length variable for the age group 3 and the adult verifiers. This figure also shows the scores obtained for each category by the children. These results show the same pattern as that of the adult verifiers.

With regards to sentence length Demuth et al. (2009) found that participants were more able to produce a full passive “as the experiment progressed, children gradually learned that they were expected to produce full forms, and increasingly did so. Alternatively (or in addition), the increase in full forms over the course of the experiment could have been due to the effects of

syntactic priming” (pg 26 – 27). It is not made clear in Demuth et al.s’ study which priming effects these authors are referring to. Possibly these effects were repetition as the children were encouraged “to use the full passive with the *by*-phrase” if they were not doing so (p. 24).

6.5. Summary of results on Elicited Production tasks

In answer to the second research question, which was what the participants’ passive abilities on Elicited Production tasks were, results show that participants scored very poorly on these tasks with no age group achieving a mean above 12% and a range from 8% to 12%. In terms of Rubin’s (2009) classification of scoring at or below chance, the participants scored very much below chance. Rubin suggests that a result like this suggests they may have interpreted passive sentences as active sentences.

These results are very different from those of Demuth et al. (2009) who found that 98% of their 3 year old Sesotho-speaking participants could produce passive verbs. In terms of passive categories they scored the best on inanimate as well as negative categories of the long passive. They also scored better on long sentences than short sentences.

Appendix 2 B provides a summary of 45 cross-linguistic studies conducted in the last four decades. Besides for Demuth et al.’s (2009, 2010) and priming studies, only 2 production studies were conducted. As discussed in Chapter 3 the priming studies are more closely related to the Elicited Imitation tasks described below, due to the element of repetition.

Therefore, it can be seen that historically the passive is rarely investigated using Elicited Production tasks. Baldie (1976) found that Production tasks were the most difficult for his participants when compared to Elicited Imitation and Comprehension.

6.6. Comparison between Comprehension 2 and 3 Character and Elicited Production tasks

The performances of the three different age group participants was compared as can be seen in Figure 6.17. The results of the repeated measures ANOVA across the three groups show a significant difference between the means of the three tasks at Level 1 ($F=109.0069$; $df= 2,118$; $p<0.001$). The post hoc Scheffe test shows a significant difference between the Elicited Production mean scores and each of the Comprehension tests

Figure 6.17. also shows how similar the results on the 2 Comprehension tasks were. It also shows how poorly the participants scored on the Elicited Production Tasks.

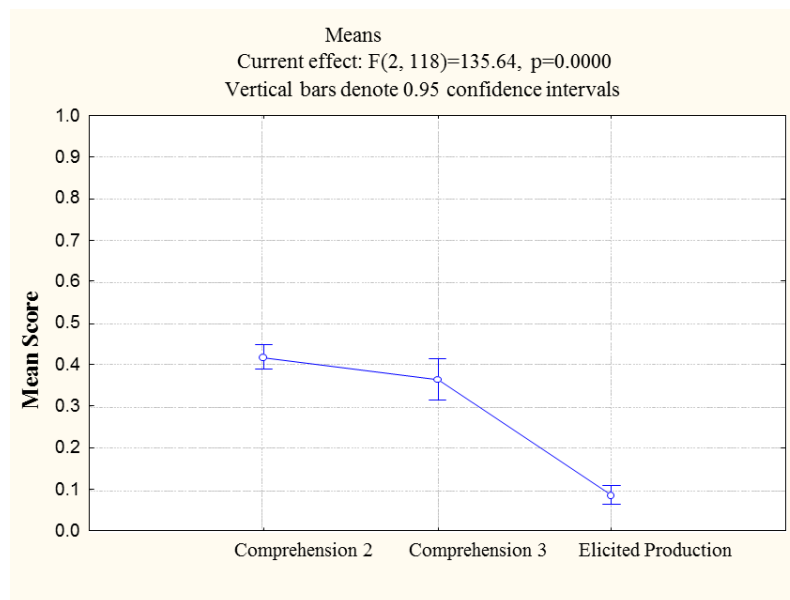


Figure 6.17 Means obtained on Comprehension and Elicited Production tasks

6.7. Relationship of findings of current study to Demuth et al. (2009, 2010)

The literature has clearly shown that Demuth (1989, 1990) and Demuth and Kline (2006) have performed the seminal work on the acquisition of the passive in Bantu languages. They have also contradicted the maturation/ A-chain Deficit Hypothesis by Borer and Wexler (1987) and Hirsh and Wexler (2006).

Demuth et al. (2009) decided to revisit their original studies with a study entitled “three year olds’ comprehension, production and generalization of Sesotho passive.” The participants were 3 year old Sesotho-speaking preschoolers. Fortuitously, her study was conducted in a similar period to my study. I would not be able to give an accurate account of the literature without relating Demuth et al.’s results to my own.

The aims of Demuth et al.’s study included testing 3 year olds “ability to comprehend the passive and produce the passive” (2009, abstract). This comparison will relate mostly to the participants in the three-year-old age group of my study.

The first issue to be considered is the selection of subjects. 16 participants whose age mean was 3.1 years were selected. The difference between the two studies was that while my study included all participants who were selected, Demuth et al. discarded 14 children due to “an inability to sit still and attend to the task” (p. 22). Also participants who did not pass the warm up task were discarded. The warm up tasks were between 5 and 10 minutes in duration. It must be remembered that Alcock et al. (2011) mention the non inclusion of these children as a limitation of Demuth et al.’s study.

In my study there were no training sentences for Comprehension tasks and 3 pre-training sentences for each of the 5 categories for Elicited Production.

For comprehension tasks, Demuth’s participants had a choice of two pictures, which according to Gerken and Shady (1998) is at chance level. In my study participants had the choice of 4 pictures which reduces the response being according to chance to 25%.

Demuth et al. (2009) comment on the difficulties subjects had with the non-actional verb for example ‘see’. The participants on the Comprehension task with two characters, in my study also performed the worst on non-actional tasks.

One of the differences between the two studies is on the Picture Selection task. Demuth et al. aimed to “investigate 3-year old Sesotho-speaking children’s comprehension of active and passive verbs. Active verbs were not examined in my study.

The results of Demuth et al.’s study showed that passive comprehension was good, with no significant difference on actional/non-actional verb categories. These results are very different from my study where participants only scored at 50% for comprehension tasks.

For Comprehension tasks Demuth et al. comments on the difficulties children had with the actual task as previously they had “little experience looking at picture books either at home or at school”. The participants in the current study also could have achieved poor results due to their lack of exposure to picture tasks.

This is an additional reason why they could have performed so well on Elicited Imitation tasks. These tasks do not require pictures and is a method that children are taught in at school (Mda and Mothata, 2000; Prinsloo and Steyn, 2004). Drills and repetitions are commonly used in the participants’ schools. Demuth et al. (2009, 2010) did not assess elicited imitation.

In relation to using the felicitous condition described by O’ Brien et al. (2006), namely the Comprehension 3 Character task in the current study, Demuth et al. found that children “did not appear to use the third character in the scene in determining which picture to point to”. These authors’ explanation for this is that, given a particular scene, the third character was observing in both pictures, and never a participant” (p. 21).

The biggest difference between the two studies is the use of Elicited Production. Contrary to the poor results my participants received (10 to 14%) Demuth et al found Elicited Production of the passive was good with participants scoring close to ceiling. A difference between Demuth

et al and my study is that these authors did not test impersonal passives on Elicited Production tasks.

As regards negative passives Demuth et al. devised stimuli so that half had a neutrally affected patient and half had a negatively affected patient as discussed in Section 6.2.a. If the ‘adversely affected’ patients were more likely to be passivised, this might provide some support for the position that such passives have a privileged status in children’s grammar. Results showed that participants “performed equally as well on verbs that neutrally or negatively affected the patient.” Demuth et al. therefore, conclude that these children have access to passive syntactic structure, regardless of the semantics of the verb” (p. 27). The participants in my study scored significantly better on negative categories than on other Elicited Production passive category tasks.

One of the reasons for the difference in participants’ performance could be due to sociolinguistic factors. One of the main factors is that Demuth et al.’s study was conducted in Lesotho which is almost a monolingual country where 85% of the population speaks Sesotho (Nurse and Phillipson, 2003). Standard Sesotho is spoken in Lesotho.

However, South Africa is a multilingual country with 11 different languages and multiple dialects. In my study, as much as attempts were made to test only first language Setswana speakers, there was the influence of other languages. Parents’ and teachers’ reports show that the participants came from homes where Sesotho, Sepedi, Tsonga and IsiXhosa were spoken.

Another difference between Demuth et al. study and mine is the performance of adults on the tasks. On Demuth et al.’s Comprehension tasks, adults performed at a 94% level. On my study adults achieved a score of 64% for Comprehension 2 Character tasks. For the Elicited

Production tasks the adults scored 46% on my study. On Demuth et al.'s study the children performed at ceiling, 95%.

6.8. Summary

The results that the participants of this study obtained for the Comprehension 2 and 3 Character and Elicited Production tasks are described and discussed in this chapter. The results are described in terms of the age, passive category and length.

For Comprehension 2 and 3 Character tasks, a developmental trend was found with the children's scores improving significantly from age group 1 to 3. However, neither the three age groups nor the adults scored at ceiling on any of the Setswana Comprehension tasks. This finding has important implications for this study and will be discussed further in the next chapter. Comparison between the passive categories' scores showed much variability. However, generally the children scored best on the passive inanimate category. They scored the worst on the passive non-actional category. These results concur with those found in the literature.

No clear results were found with respect to the length variable. This finding is again in keeping with the literature.

The purpose of using the 3 character Comprehension tasks was to determine whether the use of the third character would act as a felicitous condition as O'Brien et al. (2006) had found. If the results showed that the use of the extra character improved scores for the Comprehension task then it would have been a useful tool to assess comprehension for Setswana-speaking children. However, the Comprehension 3 Character tasks were not found to be useful.

For the Elicited Production task, a developmental trend was found for the age variable, with the children's scores improving significantly from age group 1 to age group 3. This trend

was not significant for Elicited Production tasks. Neither the 3 age groups nor the adults scored at ceiling on the Elicited Production tasks.

For the passive categories scores showed much variability. However, generally the children scored best on the inanimate categories. They scored the worst on the impersonal categories. These results do not concur with those found in the literature as impersonal passives are considered to be one of the reasons that the passive is a frequently used construction in Setswana.

No clear results were found with the length variable. This finding is again in keeping with the literature.

Chapter 7

General Discussion and Conclusion

This chapter will provide the general discussion based on the results described in Chapters 5 and 6. The conclusion of the study will then be provided. The implications of the study and directions for future research follows. Limitations of this study are also considered and final comments provided.

7.1. General discussion

The literature review strongly indicated that speakers of Bantu-languages develop (Demuth, 1989, 1990; Suzman, 1991) and use the passive more frequently (Cole, 1955; Doke, 1955) than in other language groups e.g. Indo-European where the passive is a later acquired and less frequently used construction (Brown, 1973; Horgan, 1978; Borer and Wexler, 1987; Hirsh and Wexler, 1986).

This study, therefore, aimed to determine what the participants' knowledge of the Setswana passive was. The results varied according to the method of investigation from knowledge of the passive reflected with Elicited Imitation tasks (80%), comprehension of the passive at 50% and very poor production of the passive (10%).

The advantages and disadvantages of each task have been discussed under their specific headings. However, the strongest result that came out while devising these tasks as well as the results, indicates that the passive is neither an early developing nor often used structure by 2.6 – 5.5 year old Setswana-speaking preschoolers. The first indication of this contradiction to the literature occurred during the pilot testing phase of this research when the children could not perform three different versions of the Elicited Production tasks.

An interesting area for further investigation as a result of this study is whether the passive is in fact both early acquired as well as often used in Setswana. The literature review has shown that researchers such as Demuth et al. (2009, 2010) Suzman (1991) and Rassmann (1991) describe the passive as being both early developing as well as often used structure in Sesotho and Zulu respectively. However, the results of my study show that it is necessary to tease apart the two notions of early development and frequency of the passive.

Other naturalistic studies of Bantu languages such as Swahili (Deen, 2002) and isiXhosa, (Gxilishe et al., 2008) have found that the passive was used very sparingly by three year old children. In addition, a Setswana and Zulu teacher from Language Works, an institution which teaches these languages, reported the following in response to the protocol that was used for adult verifiers in this dissertation (see Appendix 4L):

... you requested to know how children speak the Setswana language with specific reference to the passive form. According to Owen and Selinah, young children ignore the passive form until a certain age. Selinah visited her sister this weekend to speak to her 3 year old nephew. Even though she led him to use the passive tense, the boy didn't use it and couldn't even reproduce it. Children acquire the use of the passive form in Setswana at a later stage, around school-going age, according to Setswana mother-tongue speakers. Selinah also showed me some questionnaires you gave her. I discussed all of this with Owen, our African languages resource developer. Over the weekend, he visited a Setswana mother who has two children to ask about her experience. The information he received was the same as what Selinah obtained.

Further, Selinah informed me that she spoke to a principal of a middle school which teaches Grades 6 to 8. He reported that he believed that children would only begin to use the passive in Grade 8. He also reported that the passive was a form of language used mostly for writing and by adults.

7.1.2. Conclusions arising from Service-Learning reflection journals

The Service-Learning journals provided valuable information regarding the frequency and use of the passive by the participants. One of the research assistants commented that the youngest group of participants could not cope with the Elicited Production tasks. She stated that these children:

are not exposed to the passive sentences, as they are very young. Most Setswana people don't teach their children passives when they are still toddlers. Children learn as they grow through their parents when they talk to them using passive sentences (K Mabatha, reflection journal, 1 August, 2009).

The second research assistant reported that the:

elicited production test was difficult for all children, as they are not exposed to passive sentences. They couldn't say the passive sentences and it was a challenge to all of them. (N Shiko, reflection journal, 1 August, 2009).

The third research assistant described the following:

I was working with kid's age from 3-6 years. My experience while working with this kids is that I've found that most kids age 3-4 years were struggling with the Reversible long and Reversible short sentences and the Negative long and short sentences on Comprehension tasks but especially Elicited Production tasks (L Modisane, reflection journal, 1 August 2009).

However, the literature review quoted Cole (1955) in his seminal grammar text on the Setswana saying that "passive verbs are used much more commonly in Tswana than in English," p. 195). Participants' responses on Comprehension as well as Elicited Production tasks and the research assistants' qualitative comments and findings put Cole's claim into question. In addition they negate the original hypothesis for this study, i.e. that Setswana-speaking children develop the passive construction early in their language acquisition.

It is interesting to note that when I visited with Professor D.T. Cole in 2008 (personal communication, March 5, 2008) I asked him to give me reasons that he made this claim. His

response to me was that he did not really have a reason. Rather he just knew this from learning to speak Setswana in his boyhood while growing up in Botswana.

7.1.3. The use of the passive as a tool in Speech Language Therapy

One of the most important aims of this study was to devise a test battery that would be appropriate and useful for a community and communities in South Africa that have previously not been investigated. The results of this study showed that devising such a battery is a multi dimensional but simultaneously a subtle process.

This process is particularly true of the Comprehension tasks. On one level the Picture Selection task was a difficult task for the children as they, similar to those in Demuth et al.'s (2009) study are not familiar with pictures. The reason for this is mainly due to the fact that they do not have access to these books either at home or at school. However, the Comprehension task also provided some useful results, particularly as regarding the adults and the fact that they had not fully acquired the passive.

The results of Comprehension task also showed, similar to Demuth et al. (2009, 2010) that the Felicitous Condition used by O' Brien et al. (2006) was not useful in this study. The reason was that children did not score any differently between Comprehension 2 and 3 Character tasks.

The results for Production were much more clear cut, yet on opposite ends of a usefulness continuums. The Elicited Production task was completely unsuccessful. It presented difficulties both in the pilot testing as well as test phase of this study.

In the method chapter, chapter 4, I describe that three different forms of the Elicited Production task were devised. I was confident about using an Elicited Production task as I had devised a successful Elicited Production task which yielded reliable results in a previous study

about the acquisition of the passive (Bortz, 1998). However, in the pilot test phase of the current study, two of these pilot tasks were abandoned due to the pilot test participants not being able to produce passives using the task.

In order to get help with devising an effective Elicited Production task I observed Demuth et al. testing some of their participants (May, 2008). I also had personal communication with Professor Demuth regarding the difficulties I encountered testing Elicited Production. K. Demuth (personal communication August 20, 2009) suggests that the poor Elicited Production may be due to “a task problem”. I agree that this may be a possibility. However, I do not believe that task problem can be the entire reason for such poor performance. A reason for this is that the Elicited Production task was very similar to the task that Demuth herself used.

A further reason is that I pilot tested two other forms of Elicited Production tasks and participants failed on these as well. I, therefore, draw the conclusion that participants actually cannot perform elicited production tasks of the passive. My conclusion is substantiated by the fact that all Setswana-speaking research assistants and verifiers that I used for this dissertation claim that the passive, and the impersonal passive in particular, is not an often used structure in Setswana. They say that today certainly in the Pankop region people do not speak using the passive.

Elicited Imitation, on the other hand proved to be a sensitive task for this study and, therefore, should be used in the future. Such assessments of the passive, therefore, indicate Setswana-speaking preschoolers can be assessed on their comprehension and production of the passive.

Despite these results one of the original hypotheses that the passive can be used as a powerful tool to assess Setswana-speaking SLI children, holds mostly for Elicited Imitation tasks.

7.2. General Conclusion

The aim of this study was to investigate the comprehension and production of the passive construction in Setswana-speaking preschoolers. Specifically the research questions were whether there was a developmental trend in the ability to manage the passive construction and whether the category and or length of the passive had any significant effect.

These aims and questions were not chosen randomly. Instead, there were many factors that were considered when formulating them. Firstly, the rationale of this study was to take context into account. The context is Setswana-speaking children who attend pre-schools in a poverty-stricken and disadvantaged peri-urban community. A dire need exists to conduct research in these contexts. There has been a dearth of literature as well as assessment materials for far too long in this kind of context.

The second factor considered was the construction of the passive. The passive has a long history of investigation which has yielded varied results in terms of age of acquisition and frequency of use in English. The early literature described the passive as being a frequently used construction in Setswana (Cole, 1955).

Cross-linguistic research on the passive began in the mid 1980s with naturalistic investigations of 3 children each, in both Sesotho (Demuth, 1989) and Zulu (Suzman, 1991). Comprehension studies were conducted in Sesotho by Demuth et al. (2009, 2010) and Crawford (2008, 2012). The results of these studies contradicted each other. Demuth et al. (2009, 2010) also conducted a production study which found that three year old Sesotho-speaking children

could produce the passive. This research therefore, provided an interesting foundation upon which to investigate the passive in Setswana.

The method of investigating the passive in Setswana was the third factor to be considered. It was clear that using a single method would not provide comprehensive results. It was also important that both Comprehension and Production be examined. Therefore, this study used Comprehension 2 and 3 Character tasks as well as Elicited Production and Elicited Imitation tasks.

In addition, it was important to ensure that a sufficient number of participants be selected and enough test stimuli be devised in order to obtain statistically sound results. To this end 114 participants were used in this study. It was also important to include adult verifiers as a participant group, as due to the lack of literature, the Comprehension and Production of the passive by Setswana-speakers is unknown. For each passive category there were four stimuli as is common practice in the literature. The results of this study had to be related to all these factors in order to determine that a comprehensive study was conducted which could provide useful results, as is common in the literature. Specifically the participants scored the best on Elicited Imitation tasks showing that they could produce the passive. However, the opposite result was obtained on the Elicited Production tasks where the participants achieved scores of less than 15%.

As contradictory as these results are, they are not surprising when considering the task. Elicited Imitation tasks have always been an important assessment tool in the field of Speech Language Therapy. More recently these tasks have been found to be very useful with populations who have traditionally not been studied as well as bilingual and language-impaired children.

Elicited Production tasks, while useful for assessing other linguistic structures, have not often been used to investigate production of the passive as Appendix 2A shows. The exception to Elicited Production tasks are priming tasks which have begun to be conducted more recently. However, I have argued that priming tasks are related to Elicited Imitation tasks because of the need for repetition. This argument then only strengthens the usefulness of Elicited Imitation tasks.

The results of both the Comprehension 2 and 3 Character tasks showed significant developmental trends for understanding of the passive. These scores improved from the youngest group to the oldest group. What is of particular interest was that the adult verifiers scored significantly higher than the 4.5 to 5.5 year old children. These results, therefore, show an improved understanding of the passive according to age but also that the passive is not a fully understood construction by Setswana-speakers. The results also show the importance of using an adult test group.

Critics of this study may comment on the fact that a Picture Selection task was used for a population that has restricted access to books and pictures and this could have affected the comprehension scores. However, pilot testing showed that the participants could not perform on act-out tasks which use objects rather than pictures, either.

These different results for each task show that the acquisition of the passive is complex and multi-dimensional but at the same time nuanced. Therefore, an eclectic approach is vital when devising tasks for children living in poverty, or from a different language context. In addition, it is important to consider that the variety and dialect of Setswana may have changed due to factors such as urbanization.

Therefore, I conclude that perhaps the passive construction is not as critical in early language development for Setswana, as originally thought. The passive does show some development, but this is dependent on both the task as well as the category and length of the passive.

This study has contributed to a body of knowledge and highlighted the importance of taking both context and task into account. The development of culturally and linguistically appropriate materials must also be based on sound scientific principles.

This study, therefore, demonstrates that language assessment is not merely the adaptation of standardized tools but the development of new approaches and making sure that the task is appropriate for adults before applying it to children.

7.3. Theoretical Implications – Topicalisation and Impersonal Passives

A possible limitation of this study is that some of the issues which Demuth (1989, 2009, 2010) and Suzman (1985, 1987 and 1990) found that increased the production of the passive in Sesotho and Zulu, like topicalisation as answers to subject questions, was not examined in this study. However, there was little rationale to investigate topicalisation as all research assistants reported that the passive was rarely used in Setswana.

The results of the impersonal passive category showed very poor results by the participants on Elicited Production tasks. However, Cole (1982) and Machobane (1987) contend that Setswana and Sesotho-speakers have the impersonal passive in their repertoire and use it often.

7.4. Clinical Implications

7.4.1. Examination of passive in Rural Monolingual Context, Botswana

It is interesting to note that pilot testing showed that both the standard form *kgarameditswa* and the non standard form *pushiwa* needed to be provided to the children. Some children did understand the standard form but the majority understood the non standard form. This fact shows that the participants were not using a standardized form of Setswana and this may have affected their performance on many of the test stimuli.

It is also important to remember that the initial naturalistic studies as well as the most recent studies conducted by Demuth et al. (2009, 2010) were conducted in rural areas where there are more standard forms of the language spoken (Myers-Scotton, 1993).

It would be useful to perform this current study of the passive in a more homogenous language context such as is found in Botswana. As mentioned in Chapter 1 Setswana is spoken by 78.2% of the population (Otlogetswe, 2008). This percentage is similar to the 85% of people who speak Sesotho in Lesotho, where Demuth et al.'s (2009, 2010) study was conducted. Different results regarding the acquisition, comprehension and production of the passive could be obtained in Botswana. The adults' use of passive diary as well as the Comprehension and Elicited Production study could be administered in order to determine the results.

In addition, it would be useful to examine the linguistic aspects of the passive in the rural context such as topicalisation, impersonal passives and frequency of use of the passive. I propose that the results obtained in the rural context would show more definitively whether the passive was a frequently used structure or not.

7. 4.2. The development of passive language materials

This study has positive implications for the development of language materials, which are so necessary in South Africa, as discussed in Chapter 1. The results of this study show that Speech Language Therapists have to consider methodologies for devising assessment materials very carefully.

7.4.3. Elicited Imitation

The Elicited Imitation tasks were very successful as they showed significant developmental trends. I believe that they are very well suited to the way of learning of the participants and in South Africa. As Prinsloo and Stein (2004) describe in their research, rote and chant learning are very common in South Africa. A child's ability to perform Elicited Imitation tasks is a useful measure to determine whether the child's language is intact or not.

Jordaan (2011) also found correlations between passive comprehension and sentence repetition, digit repetition, listening recall and processing listening for English Additional Language participants. The current study has already determined that sentence repetition is a very useful tool for Setswana-speaking children. It would, therefore, be useful to conduct further research investigating 8 to 10 year old Setswana-speaking children's abilities with digit repetition listening recall and processing skills.

It is interesting to note that both when other forms of pilot testing occurred and during the testing phase, the children often responded to the instructions by imitating the research assistants. This is despite the fact that the research assistants had repeatedly given different instructions such as *Mpontse kolobe e a latswiwa*. 'Show me the pig is being licked'. I believe that these responses occurred because rote-learning is so entrenched in children's performance at crèche. It is almost as if this is the child's 'default setting'. Therefore, this is the only method of

responding children know and when they are faced with an unfamiliar task they revert to their ‘default setting’.

Due to the fact that Elicited Imitation tasks form the basis of priming tasks, future research should expand Elicited Imitation tasks to priming tasks like those conducted by Messenger et al. (2009) and Bencini and Valian ((2008).

7.4.3. (a). Elicited Imitation and Parent Report

In Chapter 3, I discussed the possibility of having questions about the acquisition of the passive in Parent Report assessments. If constructing a Parent Report in Setswana, it would be very important to ask parents to report on their children’s imitation abilities. However, because the passive was not found to be acquired early for Comprehension and Elicited Production tasks there would be no reason to add these questions to parent reports.

7.4.3. (b). Elicited Imitation and Teacher Report

It is very important to educate teachers about what language is, especially what imitation, comprehension and production are. Such input would need to include norms of development for linguistic structures in all these areas of language. Information would need to focus on any child who had difficulty repeating what the teacher was teaching.

7.5. Limitations of the study

As discussed in Chapter 6 one of the flaws of this study was that the Elicited Imitation task was not conducted on the same participants as the other tasks. Therefore, the majority of the participants who were tested were not the same participants as those from the Comprehension and Elicited Production tasks. Specific comparisons, therefore, cannot be made between the results of Elicited Imitation and all other tasks.

It is important to note that Pierce (1992) described a similar situation with her participants. She conducted both a Comprehension and Production experiment and did not use the same children for both experiments.

In addition, the fact that only 15 participants instead of 16, as recommended in the methodology, were used for age group 1 in Elicited Imitation tasks can be seen as a limitation of this study. Also, the fact that only a single non-actional negative stimulus was used in the Comprehension 2 and 3 Character task is a weakness of this study.

It is also possible to consider the poor results obtained on the Elicited Production task as a limitation of the study. It could be suggested that if this production task was constructed correctly, better knowledge of children's production of the passive could have been achieved. After all Demuth et al. (2009, 2010) found that their participants scored well on Production tasks. However, it must be remembered that these authors discarded almost as many participants as they tested (16 participants tested, 14 discarded).

However, it is important to remember that very few Production tasks have actually been conducted in all the decades of research conducted on the passive. Most Production tasks that have been undertaken included some form of Elicited Imitation, e.g. Menyuk (1963) and Slobin (1968).

Service-learning theory emphasizes the importance of unintended consequences. I regard the fact that the participants performed so poorly on Elicited Production tasks as an unintended consequence. This is because I never expected to have to question whether in fact the passive was an early acquired structure in Setswana. Cole's comments (1955) as well as the results of Demuth et al.'s (2009, 2010) led me to hypothesize that the passive would be acquired early.

7.6. Directions for future research

7.6.1. The role of Speech Language Therapists to meet the requirements for preschools

This research has important implications for the role of the Speech Language Therapists to assist practioners to stimulate language and identify language problems as early as possible for pre-schoolers. This is important to prevent the long term effect of speech language disorders (Marge, 1991). I have formulated these recommendations taking into account that there are a limited number of both Speech Language Therapists and Speech Language assessment and rehabilitation services available, as discussed in Chapter 1.

If these recommendations are to work it is essential that the Departments of Health, Social Welfare and Education work together as Hindle (2009) recommends. It is very important that there are strong partnerships between these government departments and non-government organizations.

Due to the fact that there are such a limited number of Speech Language Therapists available in South Africa, it is important that their services are maximized. I suggest an effective way to use the speech language therapy services are for Speech Language Therapists to partner with existing services that empower, teach and monitor ECD practioners. The Speech Language Therapist would need to focus on educating about the importance of language development and how to stimulate and encourage language.

Recommendations arising out of this study due to the circumstances found during the testing are:

- Annual hearing screenings at pre-schools. It is very important to ensure that a child's hearing is intact so that s/he can develop language adequately. During the subject selection phase children who had undiagnosed hearing loss were found.

- Partner with ECD Training programmes to focus on stimulation of language. Specific areas to focus on are conversation, rhymes and listening to stories. It is essential that practitioners read to children. Practitioners need to ensure that children participate in this experience by asking and answering questions about the stories. They need to describe pictures in the stories. It is also vital that there is a book area in each classroom where the children are encouraged to look at and 'read' the books daily. In an ideal world, the books would be in a library and the children would be able to take the books home.
- Practitioners are trained to identify children who have problems imitating, understanding or expressing themselves.

7.6.2. The effect of adult language disorders on the passive – aphasia

In keeping with the eclectic approach for Speech-Language-Therapy (Van Riper and Emerick, 1990; Swanepoel, 2007) a direction for future research is to make use of findings of the research conducted on aphasics to assist in the study of child acquisition of the passive. More attention should be paid to the underlying neurological and cognitive processes which are sparse in child language acquisition but described in adult aphasic studies. The adult materials are well constructed and can provide much useful information for the further study of the acquisition of the passive construction in children.

7.6.2. (a). Functional Magnetic Resonance Imaging (fMRI)

Studies have been conducted to determine the area of the brain where active and passive sentences are processed for adults, for example Yokoyama et al. (2006) used functional magnetic resonance imaging (fMRI) to determine whether activation in Broca's area is "greater during the processing of passive versus active sentences" (p. 989) in healthy brains of 20 Japanese native speakers. The results showed that passive sentences produced greater activation in the left frontal

operculum and the inferior parietal lobe. However, passive sentences elicited more activation than active sentences in the left frontal operculum and the inferior parietal lobule.

I think that it would be very useful in future research to also use objective tools such as fMRI on children to determine which areas are shown to indicate Comprehension and Production of the passive. The use of such tools could provide results which are more conclusive and eliminate much of the variability that exists within the child literature.

Readers may be surprised at this suggestion of objective testing using expensive highly technical equipment which is not readily available to all South Africans. This suggestion would appear to go against the call Kathard et al. (2007) made for Speech Language Therapists to make our research and practice relevant for the local population. However, it is my belief that undertaking fMRI studies to determine which areas of the brain children use to comprehend and produce the passive would provide objective evidence. Obtaining objective information would help prevent the great variation that currently exists in the area of passive language acquisition. This objective evidence could then be used to devise assessment and therapeutic techniques for dissemination by Speech-Language Therapists to assist practitioners in preschools.

7.6.3. Development of toys and educational materials as a result of this study.

One of the facets of the service-learning pedagogy is unintended consequences. These are outcomes which are intended and unintended, usually in the context of knowledge, attitudes, values, skills, behaviour, condition of status concerning the program's participants (Mark, Henry and Julnes, 2000). An important unintended consequence that arose from the current study was the potential to actually develop the test materials into toys and equipment that would benefit pre-schoolers in poverty stricken areas. As I mentioned in Chapter 1, there is a constant call for culturally and linguistically appropriate toys to be developed for the majority of the South

African population. In Chapter 4, I described how the pictures needed for the stimuli were especially devised for this study.

An unintended consequence of this study is that the characters and verbs devised can be developed as the first South African doll family. Such a family have educational benefits in that they can assist children to learn their pronouns. They also have psycho-social benefits as children can use such families to role play any issues that may be troubling them. In addition, the verbs can be used to assist children in developing the acquisition of these verbs.

7. 7. Final Comments

The results show that this study has provided important information and another building block about the acquisition of Setswana, for the development of research that is so crucially required in a language other than English in South Africa (Kathard et al. 2007). It is my sincere hope that this study has also relieved some of the pressure that linguistic inquiry is under in South Africa (van Rooy and 2006). Also this study has provided definite implications for Setswana-speaking children in Pankop which can be generalized to other crèches in South Africa.

References³⁴

- Agiheyisi, R.N. (1977). Language interlarding in the speech of Nigerians. In P.F. Kotey & H.Der-Houssikian (Eds.). *Language and linguistic problems in Africa: Proceedings of the VII Conference on African Linguistics* (pp. 97 – 109).
- Aksu-Koç, A. A., & Slobin, D. I. (1985). The Acquisition of Turkish. *The Crosslinguistic Study of Language Acquisition*. D. I. Slobin (Ed), (pp. 839 – 878). Hillsdale, NJ: Erlbaum.
- Alant, E. (2007). About being relevant: a comment on Kathard et al. *South African Journal of Communication Disorders*, 54, 11 – 13.
- Alcock, K. J., Rimba, K., & Newton, C., RJC. (2011). Early production of the passive in two Eastern Bantu languages. *First Language*. Published online 20 October 2011. DOI: 10.1177/013272371149328.
- Allen, S. E. M., & Crago, M. B. (1996). Early passive acquisition in Inuktitut. *Journal of Child Language*, 23(01), 129 – 155.
- Allport, F.H. (1924). *Social Psychology*. Boston, MA: Houghton Mifflin.
- Ambridge, B., & Lieven, E. V. M. (2011). *Child Language Acquisition: Contrasting Theoretical Approaches*. Cambridge: Cambridge University Press.
- American Speech-Language-Hearing Association (1982, June). Committee on the Prevention of Speech, Language and Hearing problems. Report ASHA 6, 425 – 426.
- American Speech-Language-Hearing Association (1993). *Definitions of communication disorders and variations*.
- Afarli, T.A. Passive in Norwegian and in English. *Linguistics Inquiry*, 20, 101 – 108.
- Aram, D.M. & Nation, J.E.(1980). Preschool language disorders and subsequent language and academic difficulties. *Journal of Communication Disorders*, 13, 159 -170.
- Armon Lotem, S., Haman, E., Jensen de Lopez, K., Smoczynska, M., Yatsushiro, K., Dabasinkiene, I., et al (in press). *A large scale crosslinguistic investigation of the acquisition of passive*.
- Babyonyshev, M., Ganger, D. Pesetsky, D., & Wexler, K. (2001). The maturation of grammatical principles: evidence from Russian unaccusatives. *Linguistic Inquiry* 32, (01) 1 - 44.
- Ballantine, J., Ballantine, P.R., & Morgan, R. (1976, July). Auditory perceptual skills in Zulu school children – A preliminary normative investigation. *South African Speech and Hearing Association Newsletter*, 247, 5 – 20.
- Baldie, B. J. (1976). The acquisition of the passive voice. *Journal of Child Language*, 3, 331 – 348.
- Bandura, A., & Harris, M.B. (1966). Modification of syntactic style. *Journal of Experimental Psychology*, 4, 341 – 352.
- Bartke, S. (2004). Passives in German children with WS. In Bartke & Siegmuller (eds.) *Williams Syndrome Across Languages*. (pp. 345 – 371). Amsterdam/Philadelphia.
- Berko- Gleason, J. (1989). *The development of language*. Columbus, OH: Merrill and Company.

³⁴ Different formatting for referencing of presentations and proceedings of the Boston University Child Language development Conference are provided. I am following the format that the authors provided.

- Bencini, G. M. L., & Valian, V. V. (2008). Abstract sentence representations in 3-year-olds: Evidence from language production and comprehension. *Journal of Memory and Language*, 59(1), 97 – 113.
- Berman, R. A. (1985). The acquisition of Hebrew. In D. I. Slobin (Ed.), *The cross-linguistic study of language acquisition, Vol. 1: The data* (pp. 255 – 371). Hillsdale, NJ: Erlbaum.
- Berndt, Bernstein, D.K., & Tiegerman, E. (1989). *Language and communication disorders in children*. (2nd ed.). New York, NY: Macmillan Publishing Company.
- Bernstein, D.K., & Tiegerman, E. (1993). *Language and communication disorders in children*. (3rd ed.). New York, NY: Macmillan Publishing Company.
- Bernstein, D.K., & Tiegerman-Faber, E. (2008). *Language and communication disorders in children* (6th ed.). Austin, TX: Pearson
- Bever, T. G. (1970). The cognitive basis for linguistic structure. In J. R. Hayes (Ed.), *Cognition and the development of language*. New York, NY: Wiley.
- Bever, T., Mehler, J., & Valian, V. (1973). Linguistic capacity of very young children. *Child Development*.
- Bishop D.V.M. (1984). *Test for Reception of Grammar*. Oxford, United Kingdom: Pearson.
- Bishop D.V.M. (2003). *Test for Reception of Grammar. (TROG -2)*. Oxford, United Kingdom: Pearson.
- Borer, H., & Wexler, K. (1987). The maturation of syntax. In T. Roeper & E. Williams (Eds.). *Parameter setting*. Dordrecht, Holland: Reidel.
- Bortz, M.A. (1992). Language Abilities of 18-month old Zulu speakers. *South African Journal of Communication Disorders*. 39, 25 – 34.
- Bortz, M. A. (1995). *A language assessment for preschool Zulu speaking children*. Unpublished master's thesis. University of the Witwatersrand, Johannesburg, Gauteng; South Africa.
- Bortz, M. A. (1998). *Tswana Expressive Receptive Language Assessment*. Northumberland, UK: STASS Publications.
- Bortz, M.A. (1998). *Acquisition of the passive by Sesotho/English and Zulu/English Bilingual children*. Unpublished Manuscript. City University of New York Graduate Centre.
- Bortz, M.A. (2009, June 16). Combining Research and Community Service in South Africa and Lesotho, First Person on the Last Page, *ASHA Leader*.
- Bortz, M.A. Schoub, B & McKenzie, J. (1992). *South African Journal of Communication Disorders*, 39, 62 – 68.
- Bortz, M.A., Jardine, C.A., and Thsule, M. (1996). Contextualising Training in the South African Context. *European Journal of Disorders of Communication*. 31, 465-476.
- Brice Heath, S. (1982). What no bedtime story means. Narrative skills at home and school. *Language in Society*, 11 (1), 49 – 76.
- Bresnan, J. (Ed.). (1982). The passive in lexical theory. In *The mental representation of grammatical relations, Chapter 1*. (pp. 3 – 86). Cambridge, MA: MIT Press.
- Bresnan, J., & McHombo, S. (1987). Topic, pronoun and agreement in Chichewa. *Language*, 63 (4), 741 – 782.
- Bringle, R.C., & Hatcher, J.A. (1999). Reflection in Service-Learning: Making meaning of experience. *Education Horizons*, 77(4), 179 – 185.
- Brown, R. (1973). *A first language: The early stages*. Cambridge, MA: Harvard Univ. Press
- Budwig, N. (1990). The linguistic marking of non-prototypical agency: An exploration into children's use of the of passives. *Linguistics*, 28, 1221 – 1252.
- Butler, K. (Ed.). (1983). *Topics in Language Disorders*, 3(3), vii.
- Caramazza, A. & Miceli, (1991). Selective impairment of thematic role assignment in sentence processing. *Brain and Language*, 41, 402 – 436.
- Caramazza, A., & Zurif, E. (1976). Dissociations of algorithmic and heuristic processes in sentence comprehension: Evidence from aphasia. *Brain and Language*, 3, 572 – 582.

- Chang, H. W. 1986. Young Children's Comprehension of the Chinese Passives. In H.S.R. Kao & R. Hoosain (Eds.). *Linguistics, psychology, and the Chinese language*, (pp. 115- 123). Centre of Asian Studies, University of Hong Kong.
- Chomsky, N. (1957). *Syntactic structures*. Berlin, Mouton and Co.
- Chomsky, N.(1965). *Argument Intervention in the Acquisition of A-movement*. Cambridge, MA:MIT Press.
- Chomsky, N. (1981). *Lectures on government and binding*. Dordrecht: Foris.
- Cole, D.T. (1955). *An introduction to Tswana Grammar*. Cape Town, Longman.
- Cole, D. T. (1982). *An introduction to Tswana Grammar*. 4th impression. Cape Town: Longman.
- Conti-Ramsden, G., Botting, N., & Faragher, B. (2001). Psycholinguistic markers for Specific Language Impairment. *Journal of Child Psychology and Psychiatry and Allied Disciplines*. 42 (06), 741 – 748.
- Crain, S., Thornton, R. & Murasugi, K. (1987). *Capturing the evasive passive*. Paper presented at 12th Annual Boston University Conference on Language development, Boston, MA.
- Crain, S., Thornton, R., & Murasugi, K. (2009) Capturing the Evasive Passive. *Language Acquisition* 16, 123-133.
- Crawford, J. (2005). *An Adversity Passive Analysis of Early Sesotho Passives: Reanalyzing a Counterexample to Maturation*. In A. Brugos, M.R. Clark-Cotton & S. Ha (Eds.). Supplement to the Proceedings of the 29th Boston University Conference on Language Development.
- Crawford, J. (2008). *Sesotho passives: The long and short of it*. Paper presented at 33rd Annual Boston University Conference on Language Development, Boston, MA.
- Crawford, J. (2012). *Developmental perspectives in the acquisition of the passive*. Unpublished Doctoral Dissertation, University of Connecticut.
- Crystal, D., Fletcher, P., & Garman, M. (1989). *Grammatical analysis of language disability*. (2nd ed.). London: Whurr Publishers.
- Culicover, P.W. (1987). *Syntax*. New York, NY: Academic Press.
- Dale, P.S. (1991). The validity of a parent report measure of vocabulary and syntax at 24 months. *Journal of Speech and Hearing Research* 34(3), 565 – 571.
- De Guzman, V. P. (1994). Acquisition of voice affixes in psychological verbs in Tagalog. In C. Ode & W. Stockhof (Eds.). *Proceedings of the 7th International Conference on Austronesian Linguistics*, Leiden, Holland.
- de Villiers, J.G., & P. de Villiers (1973). Development of the use of word order in comprehension. *Journal of Psycholinguistic Research*, 2, 331-341.
- de Villiers, J. G. (1984). Limited input: Limited structure. Commentary, In *Monographs of the Society for Research in Child Development*, 49, Serial # 207
- de Villiers, J.G. (1985). *Learning the passive from models Some contradictory data*. Paper presented at the 9th Annual Boston University Conference on Language Development.
- Deen, K. U. (2002). *The Acquisition of Swahili*. Amsterdam, Netherlands: John Benjamins Publishing.
- Deen, K. U. (2011). The Acquisition of the Passive. In T. Roeper & J. de Villiers (Eds.). *Handbook of Generative Approaches to Language* (pp. 155 – 187). Studies in Theoretical Psycholinguistics 41, 155–188. New York, NY: Springer.
- Demuth, K. (1989). Maturation and acquisition of the Sesotho passive. *Language*, 65(1), 56 - 80.
- Demuth, K. (1990). Subject, topic, and Sesotho passive. *Journal of Child Language*, 17, 67 - 84.
- Demuth, K. (1992). The acquisition of Sesotho. In D. I. Slobin (Ed.). *The crosslinguistic study of language acquisition* (Vol. 3, pp. 557- 638). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Demuth, K. (1998). Collecting spontaneous production data. In D. McDaniel, C. McKee & H. Cairns (Eds.). *Methods in the acquisition of syntax*. (pp. 3 – 22). Boston, MA: MIT Press.

- Demuth, K., & Suzman, S. (1997). Language impairment in Zulu. In E.M. Hughes & A. Green (Eds.). *Proceedings of the 21st Annual Boston University Conference on Language Development, 1*, 182 – 193. Somerville, MA: Cascidilla Press.
- Demuth, K., & Harford, C. (1999). Verb raising and subject inversion in comparative Bantu. *Journal of African Languages and Linguistics*, 20(1) 41 -61.
- Demuth, K., & Klein, M. (2006). The distribution of passives in spoken Sesotho. *Southern African Linguistics and Applied Language Studies*, 24, 377 – 388. Special Issue on Theory and Description of Southern Bantu Syntax.
- Demuth, Moloi & Machobane (2009). *Three-year-olds' comprehension, production, and generalization of Sesotho passives*. Paper presented at the 34th Annual Boston Conference on Language Development.
- Demuth, K., Moloi, F., & Machobane, M. (2010). Three-year-olds' Comprehension, production, and generalization of Sesotho passives. *Cognition*, 115 (2), 238-251.
- Department of Education (2009), Draft, *National Early Learning Development Standards for 0- 4 year olds*.
- Department of Social Development (2001, April). *Guidelines for Day-Care*
- Department of Social Development (2006). *Guidelines for Early Childhood Developmental Services*.
- Doke, C. M. (1990). *Textbook of Zulu grammar*. Cape Town: Maskew Miller.
- Faroqui-Shah, Y., & Thompson, C.K.K. (2012). Approaches to treatment of aggramatism. In R. Bastiannse and C.K.K. Thompson (Eds.). *Perspectives on aggramatism*. (pp. 158 – 191). New York, NY: Psychology Press.
- Fox, D., & Grodzinsky, Y. (1998). Children's passive: A view from the by-phrase. *Linguistic Inquiry*, 29(2), 311-33.
- Fox, D. Grodzinsky Y., & Crain, S. (1995). An experimental study of children's passive. In *MIT working papers in linguistics 26: Papers on language processing and acquisition*, 249 – 264. MITWPL, Department of Linguistics and Philosophy Cambridge, MA.
- Flynn, S. (1987). *A parameter-setting model of L2 acquisition: Experimental studies in anaphora*. Dordrecht: Reidel
- Gerken, L., & Shady, M.E. The picture selection task. In D. McDaniel, C. McKee & H. Cairns (Eds.). *Methods in the acquisition of syntax*. (pp. 125 – 146). Boston, MA: MIT Press.
- Gil, D. (2006). The acquisition of syntactic categories in Jakarta Indonesian. In N Gagarina & I. Gulzow (Eds.). *The acquisition of verbs and their grammar: The effect of particular languages*.(pp. 201 – 227). Netherlands: Springer
- Givon, G. (1979). *On understanding grammar*. New York, NY: Academic Press.
- Goodluck, H. (1998). The Act-out task. In D. McDaniel, C. McKee & H. Cairns (Eds.). *Methods in the acquisition of syntax*. (pp. 147 – 162). Boston, MA: MIT Press.
- Gordon, P., & Chafetz, J. (1990). Verb-based versus class-based accounts of actionality effects in children's comprehension of passives. *Cognition*, 36 (3), 227- 254.
- Greenberg, J.H. (1963). *The language of Africa*. The Hague: Bloomington.
- Gregersen, E. A. (1977). *Languages in Africa: An introductory survey*. New York, N.Y: Gordon and Breach.
- Grodzinsky, Y. (1984). The syntactic characterization of aggramatism. *Cognition*, 20, 99 – 120.
- Gxilishe, S., Denton-Spalding C., de Villiers, P & de Villiers, J.G. (2008, January). *Towards the development of norms for the acquisition of Xhosa as a first language*. Paper presented at the Acquisition of African Languages, Stellenbosch, South Africa.
- Harwood, F.W. (1959). Quantitative study of the speech of Australian children. *Language and Speech*. 236–270.
- Hirsch, C., & Wexler, K. (2004). Children's passives and their resulting interpretation. *Paper Presented at the Generative Approaches to Language Acquisition – North America*. University of Hawaii at Manoa, HI

- Hirsch, C., & Wexler, K. (2006 a). *Acquiring Verbal Passives: Evidence for a Maturational Account*. Paper presented at LSA 2006. Albuquerque, New Mexico.
- Hirsch, C., & Wexler, K. (2006 b). By the way, children don't know by. In D. Bamman, T. Magnitskaia, and C. Zaller (eds.). *BUCLD 30: Proceedings of the 30th annual Boston University Conference on Language Development*, (pp.249 – 261). Somerville, MA: Cascadilla Press..
- Horgan, D. (1978). The development of the full passive. *Journal of Child Language*, 5, 65 - 80.
- Hresko, W.P., Reid, D.K. & Hammill, D.D. (1991). *Test of Early Language Development*. (2nd ed.)Austin, TX: Pro-Ed.
- Irish Association of Speech and Language Therapists (2007, October). *Specific Speech and Language Impairment in children : Position Paper*
- Jaegli, O. A. (1986). Passive. *Linguistic inquiry*, 17, (4), 587 – 622.
- Jespersen, O. (1965). *A modern English grammar on Historical Principles, Part VI, Morphology*. London: George Allen and Unwin, Ltd.
- Jordaan, H. (2011). Delving into the Development of Academic Language by Foundation Phase English Language Learners. Unpublished Doctoral Dissertation, University of the Witwatersrand, Johannesburg, South Africa.
- Kathard, H., Naude, E., Pillay, M., & Ross, E. (2007). Improving the relevance of Speech-Language Pathology and Audiology Research and Practice. *The South African Journal of Communication Disorders*, 54, 5 – 7.
- Keenan, E., & Dryer, M. (2007). Passives in the world's language. In T. Shopen (Ed.). *Syntactic typology and linguistic structure description. Volume 1: Clause structure*, 2nd Edition. (pp. 325 – 361). Cambridge, UK: Cambridge University Press.
- Khumalo, L. (2009). The passive and stative constructions in Ndebele: A comparative analysis. *Nordic Journal of African Studies* 18,(2). 154 – 174.
- Kotze, A.E., & Zerbian, S. (2008). On the trigger of palatilization in the Sotho Languages. *Journal of African Languages and Linguistics* 29, (1), 1 – 28.
- Kruger, C.J. H., & Pretorius, R.S. (2006) *Introduction to the morphology of Setswana*. Munich, Germany: Volume 69 of LINCOM Studies of African Linguistics, Europa.
- Labov, W. (1979). *Sociolinguistic patterns*. Philadelphia, PA: University of Pennsylvania
- LaCharite, D. & Wellington, J.(1999) Passive in Jamaican Creole: Phonetically empty but syntactically active. *Journal of Pidgin and Creole Languages*, 14, 259 – 283.
- Lau, E., & Deen, K.U. (in press.) *Early acquisition of the passive in Cantonese*. Manuscript in preparation.
- Lee, L. (1969), *Northwestern Syntax Screening Test*. Chicago, IL Northwestern University Press.
- Lempert, H. (1990). Acquisition of passives: The role of patient animacy, salience, and lexical accessibility. *Journal of Child Language*, 17, 677 - 696. Levin, B., & Rappaport, M.(1986). The formation of adjectival passives. *Linguistic Inquiry*, 17 (4), 623 - 661.
- Livingstone, D. (1857), *Missionary travels and Researcher in South Africa including a sketch of sixteen years' residence in the interior of Africa, and a journey from the Cape of Good hope to Loundo on the West Coast, thence across the continent, down the river Zambesi, to the Eastern Ocean*. London.: John Murray, Albermale Street.
- Lust, B., Chien, Y.C., & Flynn, S. (1987). What children know: Methods for the study of first language acquisition. In B. Lust (Ed.0. *Studies in the acquisition of anaphora, Vol. 2, Applying the constraints*. Dodrecht: Reidel.
- Lust, B., Flynn, S., & Foley, C. (1998). What children know about what they say: Elicited imitation as a research method for assessing children's syntax. In D. McDaniel, C, McKee & H. Smith Cairns (Eds.). *Methods for assessing children's syntax*. (Chapter 3, 55 – 76).

- Luzzatti, C., Mondini, S., & Semenza, C. (2012). Lexical impairment in aggramatism In R. Bastianse & C.K.K. Thompson (Eds.). *Perspectives on aggramatism* (pp. 60 – 74). New York, NY: Psychology Press.
- Machobane, M. (1987). The Sesotho passive constructions. *McGill Working Papers in Linguistics*, 4, 33-52. McGill University: Montreal.
- Machtmes, K., Johnson, E., Fox., Burke, M.S. et al. (2009). Teaching qualitative research methods through Service-Learning. *The Qualitative Report*, 14 (1). 155 – 164.
- MacWhinney, B., & Snow, C. (1985). The Child Language Data Exchange System. *Journal of Child Language*, 12, 271 – 296.
- Mahery, P., Jamieson, L. & Scott, N. (2011). *Children's act: Guide for child and youth care workers*. Children's Institute, University of Cape Town & National Association of Child and Youth Care Workers, (Edition 1).
- Maratsos, M. P. (1972). Children who got worse at understanding the passive: a replication of Bever. *Journal of Psycholinguistic Research*, 3, 65 - 74.
- Maratsos, M. P. (1974). Preschool children's use of definite and indefinite articles. *Child Development*, 45, 446 – 455.
- Maratsos, M. P., & Abramovitch, R. (1975). How children understand full, truncated and anomalous passives. *Journal of Verbal Learning and Verbal Behaviour*, 14, 145 - 157.
- Maratsos, M.P., Kuczaj, S.A., Fox, D.E.C., & Chalkley, M. A. (1979). Some empirical studies in the acquisition of transformation and the acquisition of language: Passives, negative and the past tense. In W.A. Collins (Ed.). *Children's language and communication*. (pp. 167 – 191) Hillsdale, NJ: Erlbaum.
- Maratsos, M.P., Fox, D., Becker, J., & Chalkley, M.A. (1985). Semantic restriction on children's passives. *Cognition*, 19, 167 – 191.
- Marchman, V.A., Bates, E., Burkardt, A. & Good, A.B. (1991). Functional constraints of the acquisition of the passive: toward a model of the competence to perform. *First Language*, 11 65 – 92.
- Marge, M. (1972). The general problem of language disabilities in children. In J.V. Irwin & M. Marge [Eds.] *Principles of childhood language disabilities* (pp. 75 – 99). Englewood Cliffs, NJ: Prentice Hall.
- Marge, M. (1991). Introduction to the prevention and epidemiology of voice disorders. *Seminars in Speech and Language*, 12, (1), 49 – 73.
- Mark, M.M., Henry, G.T., & Julnes, G. (2000). *Evaluation: An integrated framework for understanding, guiding, and improving public and non-profit policies and programs*. San Diego, CA: Jossey-Bass.
- McCauley, R. J., & Swisher, L. (1984). Psychometric review of language and articulation tests for preschool children. *Journal of Speech and Hearing Disorders*, 49, 34 – 42.
- McGill-Franzen, A., & Gormley, K.A. (1980). The influence of context on deaf readers' understanding of passive sentences. *American Annals of the Deaf*, 125, 937 – 942.
- Mda, T.V., & Mothata, M.S. (2000). (Eds.). *Critical issues in South African Education after 1994*. Kenwyn, South Africa: Juta and Company Ltd.
- Menn, L., & Obler, L.K. (1990). Theoretical motivations for the Cross-Language Study of Agrammatism. In L. Menn & L.K. Obler (Eds.). *Agrammatic Aphasia: A Cross-language narrative Sourcebook*, 1, (Chapter 1, pp. 4 – 12). Amsterdam, Netherlands: John Benjamins.
- Menyuk, P. (1963). A preliminary evaluation of Grammatical Capacity in Children. *Journal of Verbal Learning and Verbal behaviour*, 2, 429 – 439.
- Menyuk, P. (1971). *The acquisition and development of language*. Englewood Cliffs, NJ: Prentice Hall.

- Messenger, K., Branigan, H., McLean, J., & Sorace, A. (2009). Semantic Factors in Young Children's Comprehension and Production of Passives. In J. Chandlee, M. Franchini, S. Lord & G-M. Rheiner, (Eds.), *Proceedings of the 33rd Boston University Conference on Language Development*, (pp. 355-366). Somerville, MA: Cascidilla Press.
- Mills, A. E. (1985). The acquisition of German. In D. I. Slobin (Ed.), *The cross-linguistic study of language acquisition: Vol. 1. The data* (pp. 141 – 254). Hillsdale, NJ: Erlbaum.
- Miyagawa, S. (1989). *Syntax and semantics 22: Structure and Case marking in Japanese*. San Diego: CA: Academic Press.
- Mumm, M., Secord, W., & Dykstra, K. (1980). *Merrill Language Screening Test for school age children*. San Diego, CA: The Psychological Corporation, Harcourt, Brace, Jovanovich.
- Myers-Scotton, C. (1993). *Duelling languages. Grammatical structures in codeswitching*. Oxford: Clarendon Press.
- Newcomer, P., & Hammill, D. (2004). *Test of Language Development*. San Antonio, TX: Pearson.
- Nicolosi, L., Harryman, E., & Kresheck, J. (Eds.). (1989). *Terminology of communication disorders. Speech-language-hearing* (3rd ed.). Baltimore, MD: Williams and Wilkins.
- Nicolosi, L., Harryman, E., & Kresheck, J. (Eds.). (2004). *Terminology of communication disorders. Speech-language-hearing* (3rd ed.). Baltimore, MD: Lippincot, Williams and Wilkins.
- O' Brien, K., Grolla, E., & Lillo-Martin, D. (2006). Long passives are understood by young children. *Proceedings of the 30th annual Boston University Conference on Language Development*, 441 – 451.
- O' Malley, M. H., & Tikofsky, R. (1972). The structure of language. In J.V. Irwin & M. Marge (Eds.), *Principles of childhood language disabilities*. (pp. 3 – 32). Englewood Cliffs, NJ: Prentice Hall.
- Okabe, R., & Sano, T. (2002) The acquisition of implicit arguments in Japanese and related methods. *Proceedings of Boston University Conference on Child Language Development*, 26 (pp 485 – 499).
- Orfitelli, R.M. (2012). *Argument Intervention in the Acquisition of A-movement*. Unpublished Doctoral Dissertation. University of California, Los Angeles.
- Otlogetswe, T. J. (2008) *Corpus design for Setswana lexicography*. Unpublished Doctoral Dissertation Universities of Pretoria, South Africa and Brighton, United Kingdom.
- Parramon Chocarro, X. (2009) The acquisition of actional passives. Unpublished Doctoral Dissertation Programa de doctorat de Ciència Cognitiva i Llenguatge Universitat Autònoma de Barcelona.
- Pascoe, M. (2011). Contextually relevant resources in speech-language therapy and audiology in South Africa – are there any? (Editorial) *South African Journal of Communication Disorders*, 58, (1), 1 – 7.
- Pascoe, M., Maphalalala, Z., Ebrahim, A., Hime, D., Mdladla, B., Mohammed, N., & Skinner, M. (2010). Children with speech difficulties. An exploratory survey of clinical practice in the Western Cape. *South African Journal of Communication Disorders*, 57, 66 – 75.
- Pedro, M., (2010). *The acquisition of verb inflection in Q'anjob'al Maya A longitudinal study*. Unpublished Doctoral Dissertation. University of Kansas
- Penn, C. (2007). ***“Don't give me the theory, just tell me what to do in therapy!” The slippery slope challenge for the South African professions of Speech-Language Pathology and Audiology.*** Response to Kathard et al. *South African Journal of Communication Disorders*, 54, 13 – 17.
- Penn, C., & Segal, D. (1982). Case history factors in a group of language-impaired children. *The South African Journal of Communication Disorders*, 29, 3 - 14.

- Penn, C., Frankel, T., Watermeyer, J., & Muller, M. (2009). Informed consent and aphasia: Evidence of pitfalls in the process. *Aphasiology*, 23, 3 – 32.
- Perlmutter, D.M. (1978) Impersonal passives and the unaccusative hypothesis. Proceedings of the 4th annual meeting of the Berkeley Linguistics Society, (pp 157 – 190).
- Pierce, A. (1992). The acquisition of passives in Spanish and the question of A-chain maturation. *Language Acquisition*, 2, 55 - 81.
- Pinker, S., Lebeaux, D., & Frost, L. A. (1987). Productivity and constraints in the acquisition of the passive. *Cognition*, 26, 195 - 267.
- Plante, E., & Vance, R. (1994). Selection of preschool language tests. A data-based approach. *Language, Speech and Hearing Services in Schools*, 25, 15 – 24.
- Postal, P. (1986). *Studies of passive clauses*. Albany: NY: State University of New York Press.
- Power, D.J., & Quigley, S.P. (1973). Deaf children's acquisition of the passive voice. *Journal of Speech and Hearing Research*, 16, 5 – 11.
- Prinsloo, M. & Stein, P. (2004). *What's inside the box? Children's early encounters with literacy in South African Classrooms*, 22(2), 67 – 84.
- Prutting, C.A. & Connelly, J. (1976). Imitation: A closer look. *Journal of Speech and Hearing Disorders*, 41, 412 – 442.
- Pye, C. (1991). The Acquisition of K'iche' (Maya). In D. I. Slobin (Ed.). *The Crosslinguistic Study of Language Acquisition*, 3, 221-308. Hillsdale, NJ: Erlbaum.
- Pye, C., & Quixtan Poz, P. (1988). Precocious passives (and antipassives) in Quiche Mayan. *Papers and Reports on Child Language Development*, 27, 71 – 80.
- Quirk, R. (1973). *A concise grammar of contemporary English*. NY: Harcourt Brace Jovanovich.
- Rakodi, C. (2005). The urban challenge in Africa. In M. Keiner, M. Koll-Schretzenmayr, M & W.A. Schmidt (Eds.). *Managing urban futures: sustainability and urban growth in developing countries*. Hampshire, UK: Ashgate Publishing.
- Rayner, K., & Posnansky, C. J. (1978). Stages of processing in word identification. *Journal of Experimental Psychology: General*, 107, 64-80.
- Reagan, T.C. (1992). Language function and language variation Analytical models for the South African context. *South African Journal of African Languages*, 12[Suppl. 1], 35 – 47.
- Redmond, C.L. & Jones, N.S. (2005). The environmental, social and health dimensions of urban expansion. *Population and Environment*, 26, 505 – 520.
- Redmond, S.M., Thompson, H.L., & Goldstein, S. (2011). Psycholinguistic profiling differentiates between Specific Language Impairment from Typical Development and from Attention-Deficit/Hyperactivity Disorder. *Journal Speech Language and Hearing Research*, 54, 99 – 117.
- Rice, M. (1980). *Cognition, to Language, Categories, word means and training*. Baltimore MD: University Park Press.
- Rice, M., & Wexler, K. (2001). *Test of Grammatical Impairment*. United States: The Psychological Corporation: A Harcourt Assessment Company.
- Riches, N.G., Loucas, T., Baird, G., Charman, T., & Simonoff, E. (2010). Sentence repetition in adolescents with specific language impairments and autism: an investigation of complex syntax. *International Journal of Language and Communication Disorders*, 45,(1), 47 – 60. DOI: 10.3109/13682820647676.
- Ring, M., & Clahsen, H. (2005) Distinct Patterns of Language Impairment in Down Syndrome, Williams Syndrome, and SLI: The case of syntactic chains. *Journal of Neurolinguistics* 18, 479-501.
- Rondal, Jean A., Cession A., & Vincent, E. (1988) *Compréhension des phrases déclaratives selon la voix et l'actionnalité du verbe chez un groupe d'adultes trisomiques 21*. Non published manuscript. Laboratoire de psycholinguistique, Université of Liège, Liège.
- Rosetti, L.M. (1990). *Infant-toddler assessment: An interdisciplinary approach*. Austin,TX: Pro- Ed.
- Ross, J.R. (1974). Three batons for cognitive psychology. In W. Weimer & D. Palermo (Eds.). *Cognitive psychology and the symbolic process*. New York, NY: Academic Press.

- Rubin, M. (2006). Compreensão da passiva na síndrome de Down (The verbal passive in Down Syndrome. In J. Barbosa & F. Oliveira (Eds.), *Textos Seleccionados do XXI Encontro da Associação Portuguesa de Linguística*. Lisboa: Colibri.
- Rubin, M. (2009). The Passive in 3- and 4-year-olds. *Journal of Psycholinguist Research*, 38, 435–446.
- Saeed, J. I. (2003). *Semantics* New York, NY: John Wiley and Sons.
- SAIDE. (2011, August). *Grade R Research Dissemination*. Braamfontein, South Africa.
- Savage, C., Lieven, E., Theakston, A., & Tomasello, M. (2003). Testing the abstractness of children's linguistic representations: Lexical and structural priming of syntactic constructions in young children. *Developmental Science*, 6, 557–567.
- Schiavetti, N., & Metz, D.E. (2006). *Evaluating research in communication disorders*. Boston, MA: Allyn & Bacon Publishing Company.
- Schmitt, P. J. (1969). *Deaf children's comprehension and production of sentence transformations and verb tenses*. Unpublished Doctoral Dissertation. University of Illinois at Urbana-Champaign.
- Segalowitz, N.S., & Galang, R.G. (1978). Agent-patient word-order preference in the acquisition of Tagalog. *Journal of Child Language*, 5 (01), 47 – 64.
- Semel, E., Wiig, E. H. & Secord, W. (2003). *Clinical Evaluation of Language Fundamentals 4*. San Antonio, TX: Pearson.
- Semel, E., Wiig, E. H. & Secord, W. (2004). *Clinical Evaluation of Language Fundamentals- Preschool-2*. San Antonio, TX: Pearson.
- Seymour, H. N., Roeper, T. W., & J.de Villiers, (2005). *Diagnostic Evaluation of Language Variation (DELV)*. San Antonio: Pearson.
- Shimpi, P.M., Gamez, P.B., Huttenlocher, J., & Vailyeva, M. (2007). Syntactic priming in 3- and 4-year old children: Evidence for abstract representation of transitive and dative forms. *Developmental Psychology*, 43(6), 1334 – 1346.
- Singh, S. (2007). A place for mixed methodologies? *South African Journal of Communication Disorders*, 54, 17 – 19.
- Slobin, D.I. (1967). *A field manual for cross-cultural study of the acquisition of communicative competence*. Berkeley, C.A: University of California.
- Slobin, D. I., & Welsh, C.A. (1968). Elicited imitation as a research tool in developmental psycholinguistics. Language-behavior research Laboratory working paper No. 10. Berkeley University of California. In C.A. Ferguson & D. I. Slobin (1973) (Eds.). *Studies of Child Language Development* New York, NY: Holt, Rinehart and Winston.
- Slobin, D. I. (1992). Introduction. In D. I. Slobin (Ed.). *The crosslinguistic study of language acquisition* (Vol 3). (pp. 1-13). Hillsdale, NJ: Lawrence.
- Smith-Lock, K. M. (1993). *Morphological analysis and the acquisition of morphology and syntax in specifically-language impaired children*. (Haskins Laboratories Status Report on Speech Research, SR-114, pp. 1 - 24). Erlbaum Associates.
- Snyder, W., & Hyams, N. (2008, September 6). Children's passive: The role of discourse features. *University of Connecticut Psycholinguistics Brownbag*.
- Soludo, C.C. (2001). Disputing Castelian Globalisation in Africa. In J. Muller, N. Cloete & S. Badat (Eds.). *Challenges of Globalisation: South African Debates with Castells*. Cape Town: Miller Maskew Longman.
- Statistics South African National Census (2011) www.statssa.gov.za/census2011
- Statistics South Africa Census 2001 (22 February 2010). File: South Africa 2001 Tswana speakers proportion map.svg.
- Stephen, L. (1988). *The acquisition of the passive voice in Zulu*. Unpublished undergraduate research report. Department of Speech Pathology and Audiology, University of the Witwatersrand.

- Strohner, H., & Nelson, K. E. (1974). The young child's development of sentence comprehension: influence of event probability, nonverbal context, syntactic form, and strategies. *Child Development*, 45(3), 567-576.
- Stromswold, K. (n.d.). *Why children understand and misunderstand passive: An eye-tracking study of passive sentences*. (Tech. Report 85). Rutgers University: New Brunswick.
- Sudhalter, V., & Braine, M.D.S. (1985). How does comprehension of passives develop? A comparison of actional and experiential verbs. *Journal of Child Language*, 12(2), 455 - 470.
- Sugisaki, K. (1999). Japanese passives in acquisition. University of Connecticut. *Working Papers in Linguistics*, 10, 145 - 156.
- Suzman, S. M. (1985). Learning the passive in Zulu. *Papers and reports on child language development*, 24, 131 - 137.
- Suzman, S.M. (1987). Passives and prototypes in Zulu children's speech. *Journal of African Studies*, 7, 241 - 254.
- Suzman, S.M. (1991). *Language acquisition in Zulu*. Unpublished Doctoral Dissertation. University of the Witwatersrand, Johannesburg.
- Swanepoel, D. (2007). Response to Kathard et al., Research-driven: A scientific profession accountable within contextual realities. *South African Journal of Communication Disorders*, 54, 10 – 11.
- Taylor, O. L., & Payne, K.T. (1994). Language and communication differences. In G.H. Shames, E.H. Wiig & W.A. Secord (Eds.). *Human communication disorders: An introduction* (4th Ed, pp. 136 - 177). New York, NY: Macmillan Publishing Company.
- Terzi, A., & Wexler, K. (2002). A-chains and s-homophones in children's grammar: Evidence from Greek passives. *NELS* 32.
- Thornton, R. (1998). Elicited production. In D. McDaniel, C. McKee & H. Cairns (Eds.). *Methods in the acquisition of syntax*. (pp. 77 – 102). Boston, MA: MIT Press.
- Tomasello, M. (2008). *The usage based theory of language acquisition* //FS2/CUP/3-PAGINATION/CHEL/2-PROOFS/382/978052188337CO5.3D.
- Trochim, W.M.K. (2006) *Research Methods knowledge base*. Web Centre for Social Research Methods.
- Trosberg, A. (1982). Children's comprehension of before and after reinvestigated. *Journal of Child Language*, 9, 381 – 402.
- Turner, E. A., & Rommetveit, R. (1967). The acquisition of sentence voice and reversibility. *Child Development*, 38 (3), 649-660.
- UNESCO International Bureau of Education (2006). *South Africa Early Childhood Care and Education Program*. (IBE/2006/EFA/GMR/CP/78)
- Van der Lely, H. K. J. (1996). Specifically language impaired and normally developing children: Verbal passive vs. adjectival passive sentence interpretation. *Lingua*, 98(4), 243-272.
- Van der Lely, H.K. J., & Harris, M. (1990). Comprehension of reversible sentences in specifically language-impaired children. *Journal of Speech and Hearing Disorders*, 55, 101 – 117.
- Van der Lely, H.K.J., & Dewart, M. H. (1986). Sentence comprehension strategies in specifically language impaired children. *The British Journal of Disorders of Communication*, 21, 291 - 306.
- Van Riper, C., & Emerick, L. (1990). *Speech Correction. An introduction to Speech Pathology and Audiology* (8th Ed.). Englewood Cliffs, NJ: Prentice Hall.
- van Rooy, B. & Pienaar, M. (2006). Trends in recent South African Linguistic Research. *Southern African Linguistics and Applied Language Studies*, 24 (2), 191 – 216.
- Verrips, M. (1996). *Potatoes must peel: The acquisition of the Dutch Passive*. Unpublished Doctoral Dissertation, University of Amsterdam, Holland.
- Vinther, T. (2002). Elicited Imitation: a brief overview. *International Journal of Applied Linguistics*. 12, 1, 54 – 73. Doi: 10.1111/1473-4192.00024

- Walker, A.G. H. (1984). Applied sociology of language vernacular languages and education. In P. Trudgill (Ed.). *Applied Sociolinguistics*, 159 – 202. London: Academic Press.
- Wetherby, A.M., Yonclas, D.G., & Bryan, A.A. (1989). Communicative profiles of preschool children with handicaps: Implication for early identification. *Journal of Speech and Hearing Disorders*, 54, 145 – 158.
- Whitehurst, G. J., Ironsmith, M., & Goldfein, M. (1974). Selective imitation of passive construction through modelling. *Journal of Experimental Child Psychology*, 17(2), 288 –302.
- Wolfram, W. (1983). Test interpretation and sociolinguistic differences. *Topics in Language Disorders* 3(3), 21 – 34.
- Xu, T. (2010, March). *Are Chinese children's passives delayed?* Paper presented at the 2010 Tokyo Conference 26 on Psycholinguistics.
- Yokoyoma, S., Watanabe, J., Iwata K., Ikuta, N. et al. (2006). Is Broca's area involved in the processing of passive sentences? An event-related fMRI study. *Neuropsychologia*, 45, 989 – 996.
- Young, E. C., & Perachio J. (1993). *The Patterned Elicitation Syntax Test*. The Psychological Corporation, Harcourt, Brace, Jovanovich
- Zerbian, S. (2007). The subject/object asymmetry in Northern Sotho. In K. Schwabe & S. Winker (Eds.). *Information structure and the architecture of Grammar: A typological perspective* ³⁵. Amsterdam: John Benjamins.
- Zimmerman, I.L., Steiner, V.G., & Pond, R.E. (1992). *Preschool Language Scale-3* [PLS]; San Antonio: Pearson.
- Zimmerman, I.L., Steiner, V.G., & Pond, R.E. (2002). *Preschool Language Scale-4* [PLS]; San Antonio: Pearson.
- Zimmerman, I.L., Steiner, V.G., & Pond, R.E. (2011). *Preschool Language Scale-5* [PLS]; San Antonio: Pearson.

³⁵ No page numbers supplied. I used a draft copy of this article.