THE BILINGUAL STORY:
An Investigation into the Patterns of Thinking for Speaking of L1 and L2 Learners of English and isiZulu

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ABSTRACT

The nature of language learning in bilingual environments has been brought to the fore in recent research. South Africa is a culturally and linguistically diverse country. Some challenges have been met upon embracing multilingualism most especially in the field of education, with the implementation of a bilingual language policy.

The aim of this study is to investigate the language patterns and development of South African speakers in a monolingual and bilingual context in order to discover the patterns of thinking for speaking amongst the different groups of speakers. This research seeks to gain insight into whether second language learners develop a different pattern of thinking for speaking upon acquiring their second language.

A total of 54 narratives of first language English, first language isiZulu and second language English speakers, were compared and contrasted in terms of language and pragmatic use. This data of oral narrative texts was elicited from a video retelling task. A linguistic analysis was carried out in order to determine language and pragmatic acquisition and development, as well as to report on performance of the oral narrative task from both a speech and gesture perspective.

The results reveal an effect of culture on these typologically dissimilar languages, as speakers of the different languages all performed the narrative task differently. The findings show strong evidence towards the patterns of thinking for speaking amongst the different speakers, and the fact that different learners perceive the same task differently is an important factor in drawing up curricular and learning programmes in education.

Keywords: Bilingualism, Thinking for Speaking, Narrative, Gesture, Language development

PLAGIARISM DECLARATION

This thesis is my own work and all primary and secondary sources have been appropriately acknowledged. This thesis has not been submitted to any other institution as part of an academic qualification.

This thesis is prepared in partial fulfillment of the requirement of the degree of Masters in Linguistics, at the University of Witwatersrand, Johannesburg, South Africa.

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Signed: ______________________________

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CHAPTER ONE: INTRODUCTION

The present study aims to assess the oral language acquisition and development of South African speakers in a monolingual and bilingual context. The study of oral language skills is currently at the top of the research agenda on improving literacy skills and attainment (Uccelli and Paez, 2007). For a better insight on how to improve the oral language proficiency of bilingual learners, we need to further investigate our understanding of the developmental patterns and associations amongst the languages which they speak (Uccelli and Paez, 2007).

While narrative ability has been identified as a crucial precursor to literacy development and academic achievement in monolinguals, a better understanding of the characteristics and development of the oral narratives of bilingual learners is still required (Gutierrez-Clellen, 2002). Although much research on bilingual children's narratives is still available in several languages (Berman and Slobin, 1994; Laurent, Nicoladis, and Marentette, 2015; Minami, 2005; Ucelli and Paez, 2007), systematic research is limited for Southern Bantu languages in South Africa. The following thesis is therefore part of a larger project on the development of pragmatic skills of South African speakers (Kunene Nicolas, 2015; Ahmed, 2015; Ntuli, 2016).

Contributing to previous research, this study intends to establish the language trends of typically developing bilinguals and typically developing monolinguals. The study compares the developmental patterns of bilinguals in their second language, English, with that of monolinguals who speak English and monolinguals who speak their first language, isiZulu. In assessing the language and developmental patterns of these groups of speakers, we aim to identify what patterns of thinking for speaking monolinguals and bilinguals possess.

In speaking about bilingualism, we are speaking about multiple languages. Language and culture, as well as thought, are variables which are interrelated. This study aims to explore Slobin's (1987) hypothesis that language provides speakers with a framework of expression and this guides how events, our experiences and thoughts are expressed. What happens when we learn another language? Stam (2010) explores how the concept of thinking for speaking may be extended to second language learners. She hypothesised that second language learners must acquire a different pattern of thinking for speaking if the pattern of their first language (L1) differs to that of their second language (L2). The study attempts to gain insight

into whether bilingual speakers have similar patterns of thinking for speaking as those speaking their first language (hereafter referred to as L1) or of those speaking their second language (L2), or perhaps bilinguals develop completely new patterns of thinking for speaking.

Background of the study

1. Patterns of thinking for speaking

When acquiring a language, an individual acquires the grammar of that language and so the systems of grammatical morphology and syntactic constructions are learnt. Talmy (1985) refers to a schematic framework made up of a restricted set of general ideas, articulated by grammar, which defines conceptual organisation within the cognitive domain. This serves as a structure for temporal and spatial relations. Although grammar sets the specifications or conceptual framework for which the lexical contents should be put into, Slobin (1991) suggests that children are born with more than just this framework. He postulates that in addition to acquiring this system of grammatical forms and semantic or communicative functions, they also acquire a framework for schematising experience.

Slobin (1987, 1991) presents a new take on linguistic relativity and determinism, where instead of speaking about language and thought, which is viewed as two separate entities; he refers to a particular type of thinking which is closely related to language. This is a certain type of thinking which occurs on-line, in the process of speaking. It involves the selection of objects or characteristics of objects and events which fit into some conceptualisation of the event and is readily encodable in the language.

Therefore, in acquiring their native language, Slobin (1991) proposes that a child learns particular ways of thinking for speaking. Through his collaborative research on cross-linguistic development of the narrative, the oral narratives of children and adults across nine languages were analysed. The study found that pre-schoolers provide evidence of language-specific patterns of thinking for speaking. Languages incline toward different patterns in what is asserted and what is simplified and these differences come to have an effect on overall “rhetorical style” (Slobin, 1991; p.19). The present research therefore aims to explore language and developmental patterns of South African speakers. In order to do so, the study

will include a cross-linguistic analysis of the narrative and thus establish the patterns of thinking for speaking of both first and second language learners.

2. Bilingualism

The comprehensive theme of the present research falls under bilingualism. Butler and Hakuta (2004) have broadly defined the term bilingualism as the knowledge and acquisition of more than one language. With children and adults being exposed to more than one language every day, be it in the classroom or workplace, through travel or marriage, the phenomenon of bilingualism has become the norm and is more prevalent than monolingualism (Doughty and Long, 2008; Harley, 2008).

In their narrower definition, Butler and Hakuta (2004) describe bilinguals as individuals who obtain communicative skills, with varying degrees of proficiency, in oral and written forms, to interact with speakers of one or more languages. Bilingualism may be further classified depending on the aspect on which one is focusing. This study focuses on sequential bilingualism or second language acquisition; this generally refers to the acquisition of a second language after one has already acquired the first language (Butler and Hakuta, 2004; Carroll, 2008). The scope of second language acquisition covers informal L2 learning, formal L2 learning or a combination of the two (Saville-Troike, 2006); the latter is what the present study aims to look at. Informal learning is usually the result of learning through interaction, whilst formal learning involves active learning of the second language. A typical definition of "second language" is explained by Saville-Troike (2006; p. 4) as an official or societally dominant language used for basic purposes such as education or employment. The terms 'bilingualism' and 'second language acquisition' (SLA) will therefore be used interchangeably.

Bilingualism was not always viewed in a positive light as it was surrounded by many myths, with its negative consequences emphasised (Bialystok and Craik, 2010). It was not until Peal and Lambert (1962) showed through their study, in which Francophone bilinguals in Montreal had outperformed monolinguals in a range of tasks, that a shift in research on bilingualism took place (as cited in Bialystok and Craik, 2010). Bialystok and Craik (2010) attempted to evaluate the general ways in which bilingualism affected cognitive and linguistic processes across the lifespan. According to their findings, there were certain disadvantages experienced by bilingual speakers which involved formal language proficiency. Bilinguals

were found to have weaker access to lexical items as well as smaller vocabularies than monolinguals. However, accumulating evidence showed that they were more advantageous regarding the development, efficiency and maintenance of executive-control functions. Other studies have shown that the main empirical finding for the effect of bilingualism on cognition is in the evidence for enhanced executive control in bilingual speakers (review in Bialystok, Craik, Green and Gollan, 2009; Barac and Bialystok, 2012).

2.1. South African Linguistic Landscape

It is without a doubt that within South Africa, a culturally diverse country, bilingualism or multilingualism is more the rule than it is the exception. Many South African speakers are either exposed to a bilingual environment from birth or become bilingual later on in life. Due to this factor, it is increasingly difficult to find complete monolinguals; hence the study looks at, broadly speaking, South African speakers performing in a monolingual or bilingual *context*.

With the linguistic landscape of South Africa in mind, this investigation seeks to particularly focus on L1 speakers of English and isiZulu and thereby contrast their language development with that of L2 English speakers whose L1 is isiZulu – the bilingual group. The L1 English and L1 isiZulu speakers will act as our two monolingual groups. Due to the presence of other languages in our environment and country at large, technically speaking, these groups would otherwise be referred to as English-dominant unbalanced bilinguals and isiZulu-dominant unbalanced bilinguals. These three language groups provide us with information on how the relation between these typologically different languages, English and isiZulu, affects bilingual learners during the performance of the oral narrative task. The research looks at the development of this performance in children right through to adults, from all the language groups.

2.2. Bilingual learning

An instance of how our diversity is embraced may be seen through the South African language policy whereby eleven languages have been made official. English is a West Germanic language, a branch of the Indo-European language family; while isiZulu is an indigenous language stemming from the Bantu language family. These two languages are typologically dissimilar as the former is a satellite-framed language while the latter is verb-

framed. The English language serves as a L1 or mother tongue to 9.6% of the South African population, while isiZulu is an L1 to 22.7% of the country, the language with the highest number of speakers (Statistics, 2011).

The map below is indicative of the spread of the official languages in South Africa.

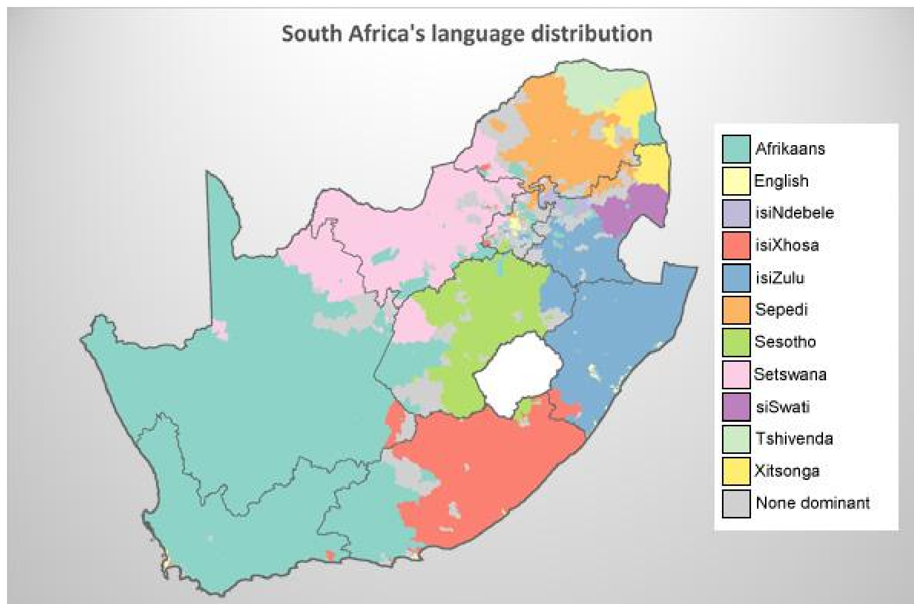

Figure 1: Map illustrating the distribution of languages in South Africa. Source: Census, 2011.

Due to the variety of languages spoken in South Africa, language policy favours bilingual learning in schools. However this policy has not been implemented without any challenges, as the concern arises over the schools' capacity to cope with multicultural and multilingual classes as the racial and socio-economic class amongst pupils becomes more and more varied, post-apartheid (Hofmeyr, 2000).

With this in mind, the broader context of this study emerges - the post-apartheid South African situation. The emerging school landscape has shown some dramatic trends in pupil migration (Hofmeyr, 2000). Apart from the realisation of the importance of education by parents, another reason for pupil migration has been due to the changes in the public sector. With Black Economic Empowerment and new democratic freedoms, an influx in movement between former black and former white schools amongst both teachers and pupils may be seen. The composition of the pupil body has, therefore, become quite varied. Higher levels of the integration of English may be seen amongst ex-Model C schools as the vast number of black parents prefers to have their children learn in English, a language seen as the route to higher education and employment (Cronje, 2015).

Language and learning policies in education advocate the use of Southern Bantu languages from grade 1 to grade 3 as the Language of Learning and Teaching (LoLT), however many teachers along with the insistence of parents and children are opting for the use of English from earlier grades. This is due to the high value placed on English as an international language or language of empowerment, which is believed by many to be useful in obtaining social goods (Setati, 2008). With a large influx and diversity of learners into ex-Model C schools, the use of English as the LoLT is set as, naturally, a school with such diversity will not be able to cater for eleven languages as the LoLT in classrooms (Hofmeyr, 2000). As an indirect consequence, the last census has shown a steady decline of Southern Bantu languages (Statistics, 2011).

Rationale

"Born frees" in South Africa are broadly referred to as children born after 1990, or more specifically, as those born into the post-apartheid era after 1994 (Cronje, 2015). They make up at least half of the country's population today. South Africa has provided these children, teenagers and young adults with "full franchise rights" (p.1). However it has failed to provide the majority of our youth with access to the labour market, entrepreneurial incentives, vocational training and decent schooling (Cronje, 2015). There is an increasingly low output at matric level and the standard of education is on a decline as the levels of literacy and numeracy remain low (Jordaan, 2011; Modisaotsile, 2012). With language as the first and most important tool for learning, many have looked to the country's language and learning policies for a solution to this problem.

Many studies focus on L1 acquisition so this study seeks to bring more research in L2 or multilingual development in comparison to L1 development. Through the use of the story recall task, we compare the oral narrative texts of typically developing L1 and L2 speakers of English and isiZulu, across the age groups of 5-21 years. The secondary aim is to assess the acquisition and development of both languages, which has a direct impact on pragmatic skills and thus aids scholastic achievement.

Many challenges have surfaced with the implementation of a bilingual learning language policy in schools. The disadvantage for children who cannot be taught in their native or home language (HL) arises and debates have centred around which languages are to be used as the medium of instruction in schools (Owen-Smith, 2010). At present, the medium of instruction

or LoLT in most schools is English (Owen-Smith, 2010), with some schools using Afrikaans. It has been argued by Desai (1999) that learners be allowed to respond to questions in their L1 although material is provided in the additional language (as cited in NCCRD, 2000). This notion stems from the results of her study carried out on learners in grades 4 and 7 who were given written tasks to do in English and isiXhosa. The research found the performance of the learners to be more sophisticated in isiXhosa as opposed to the language of their medium of instruction, English. Phaswana (1998 as cited in NCCRD, 2000), on the other hand, argues that learners would not do notably better, writing in their L1, by the time they had reached university due to writing and learning styles they would have acquired in school. Research by the University of the Western Cape provides evidence for this argument as it was found that L1 isiXhosa speakers, who wrote an essay in both their L1 and English, had not performed any better when writing in Xhosa (Phaswana, 1998).

The present study seeks to focus on the consequences of bilingual learning and its effect on bilingualism by looking at the cognitive, linguistic and pragmatic development of bilingual learners. Matthews (2014) highlights the importance of "cross-culturally valid measures of pragmatic development" (p. 7) to assist in understanding not only the typical populations but also having normative measures to evaluate the assessment for atypical populations. Norbury and Sparks (2013) illustrate the importance of appropriate pragmatic behaviour which may be affected by culture. Matsui (2014) looks at the importance of the effect of correctly marking information using grammatical and lexical devices, which has consequences on both cognitive and language development. This research is anchored under a psycholinguistic approach and not an educational approach even though there is an intersection in terms of the population sample.

A Multimodal Study

Language cannot be constrained on only the verbal, speech modality of words and sentences but also includes extra-linguistic features (McNeill, 1992; Kendon, 2004). Gesture has been described as the rehearsed and spontaneous movements of the hands and body which accompany speech (Cartmill, Demir and Goldin-Meadow, 2012; Abner, Cooperrider and Goldin-Meadow, 2015). These movements, or gestures, are a crucial part of a child's communicative inventory as children use gestures before they are able to produce words to communicate. Gesture therefore provides insight into conceptualisation and language

acquisition. McNeill (1992) points out that speech and gesture express two aspects of thought - the verbal and the imagistic.

These modalities either represent the same entities or they complement each other, whereby an aspect of the speaker's thoughts not communicated verbally may be communicated through gesture. Stam (2010) mentions how, for example, the different patterns of thinking for speaking of native speakers of Spanish and English were found to be expressed gesturally. Gesture is therefore important as it provides information about and allows for the observation of mental representations which speech alone cannot (Stam, 2010).

In this view, our approach to the oral narrative consists of two dimensions: the verbal, linguistic speech production and the non-verbal, paralinguistic gesture production; thus making the research a multimodal study. The gesture aspect will provide more information on how bilingual speakers conceptualise events in their respective languages and therefore on the nature of their representation; whilst the oral narrative will provide an insight into the discourse produced, as well as the way in which constructions are conceptualised across the language groups. It is important to emphasise that the research explores the conceptualisation of discourse in the narratives of all three language groups - L2 English, L1 English and L1 isiZulu; and across all the specified age groups, 5-6, 9-10 and adults 18-21. This provides for a developmental assessment linguistically and gesturally. We will therefore be allowed to establish language patterns across the different languages through the ages.

Aims of the study

The study aims to assess linguistic development and pragmatic competence in South African speakers through the narrative. Assessing narrative ability contributes to research on the narratives of bilinguals, which in turn also looks at narrative conceptualisation across cultures. The study is therefore be able to establish the different patterns of thinking for speaking. The research considers the contribution of gesture which is said to develop alongside language. The proposed study aims to contribute more information to the little existing research on the acquisition and development of South African Indigenous languages (Gxilishe, 2008), which in this case will focus on isiZulu, which falls under the linguistic family of Bantu languages (Demuth, 2003). It also aims to contribute to previous research on pragmatic skills (Kunene Nicolas, 2015; Ahmed, 2015; Ntuli, 2016) by establishing the developmental language patterns of typically developing English and Zulu monolinguals and

bilinguals. The previous studies either focus on monolingual or bilingual populations, but this study seeks to examine both monolingual and bilingual populations simultaneously. This study also looks at L1 South African English narrative production, to bring novel information on this population within the South African context.

Research on the acquisition of English has illustrated how the field of SLA has been limited to specific sociolinguistic settings (Doughty and Long, 2008; p.180). The 'institutional L2 setting' is one which has almost been ignored. In this setting, the L2 is widely used in many domains and institutional settings but is, for most of the population, an additional language rather than an L1. Whilst there are many more institutional L2 settings of English in countries such as India, Singapore, Kenya and South Africa, much of the research on the acquisition of English have been concentrated in 'dominant L2 settings' such as Britain, Canada and New Zealand.

Strategically, the results of this study aims to contribute more information on the norms of acquisition and development in isiZulu, but also establish these trends for typically developing populations of monolingual and bilingual speakers of English. The research is therefore able to contribute to a database of normative or culturally appropriate standardised measures against which atypical populations may be compared. Findings from this study may also evaluate the effectiveness of and inform South African language policies further, as well as offer guidance on the linguistic modification of teaching materials.

Research Questions

The research questions of this study are:

1. How is the oral narrative performed across different contexts - in English and isiZulu in an L1/monolingual versus L2/bilingual context?
2. What developmental trends emerge from these groups?

Chapter Outline

The structure of this dissertation is as follows:

Chapter 1 – Introduction:

In this chapter the study and its major themes and aims are introduced. The background and rationale of the following study has been discussed and the research questions introduced.

Chapter 2 – Literature review:

Discussed in this chapter is an overview of existing literature related to the present research, as well as an explanation of important concepts. The chapter discusses Slobin's theory of Thinking for Speaking, bilingualism, as well as the stages of language acquisition. In this chapter, past studies relate information and findings regarding bilingual linguistic development, the narrative and gestural production.

Chapter 3 – Methodology:

The research methodology used in this study will be explained. The method used in the present study draws on that of Colletta (2009), Colletta, Guidetti, Capirci, Ece Demir, Kunene Nicolas, and Levine (2014), as well as Kunene Nicolas (2015); hence it is well documented. This chapter explains the advantage of oral narrative retelling as well as the use of video recording.

Chapter 4 – Results and analysis:

This chapter deals with a description of the results from the data collected. In Chapter 4, the research accounts for the quantitative results and analysis.

Chapter 5 – Qualitative analysis:

Following the quantitative analysis, Chapter 5 is an insert on the qualitative findings of the research.

Chapter 6 – Discussion and Conclusion

Chapter 6 will provide a summary of the research findings, also mentioning the limitations of the research. This chapter concludes the study.

CHAPTER TWO: LITERATURE REVIEW

Introduction

The present study assesses the language and pragmatic acquisition of bilingual speakers in comparison to that of monolingual speakers. The research explores the patterns of thinking for speaking and in doing so take a closer look at the manner in which South African speakers of different languages schematize their experiences. To assess this, oral narratives elicited through a video retelling task were contrasted and compared. The study is of a multimodal nature and therefore looks at two faculties of language. Since speech and gesture may be thought of as a single system, it is only fitting that we look at the verbal speech modality of language in conjunction with the non-verbal gestural modality. Gesture as a variable is important as it allows us to gain further insight into the patterns of thinking for speaking of bilinguals as well as the overall contribution and influence of gesture when speaking a second language.

Thinking for Speaking

The notion that the linguistic structure affects the cognition of language users is one that has been the subject of extensive studies in numerous fields such as psychology, anthropology, psycholinguistics, philosophy of language and the cognitive sciences (Beek, 2004). This notion is termed linguistic relativism or else referred to as the Sapir-Whorf hypothesis, after its proponents. As cited in Stam (2010), Whorf (1956) explains that apart from the influence of language on thought, the habitual linguistic patterns of different languages cause speakers to think differently about the world. In speaking about habitual linguistic patterns, Whorf refers to more than just grammatical forms and constructs but also the general patterns of language use, its metaphors and analogies all of which are shaped by the culture of the speaker's language. With a renewed interest in the linguistic relativity hypothesis, a strong version of this theory has been advocated by Lucy (1996).

According to Lucy (1996, as cited in Treffers-Daller, 2012), language and thought interact with each other at three different levels:

1. Semiotic – the semiotic level looks at the general impact of natural language on cognition.

2. Structural – the focus at this level is on cognition which is shaped by specific morpho-syntactic and lexical categories.
3. Functional or discursive – at this stage, focus is on the ways in which social communicative practices influences habitual behaviour in verbal interactions (Treffers-Daller, 2012; p.3).

Languages differ typologically in how semantic domains such as spatial and temporal relations are indicated lexically and syntactically. Children therefore acquire a framework of grammatical constructions which informs the expression of thoughts, experiences and feelings. It is important to not just look at grammatical differences between languages, but also the alternative constructions of reality produced across socio-cultural groups (Treffers-Daller, 2012).

A weaker version of the linguistic relativity hypothesis is known as linguistic determinism, and it is upon this weaker version which Slobin (1987, 1991) developed his theory of thinking for speaking. Slobin's (1987, 1991, 1996) Thinking for Speaking theory refers to a special form of thought which is mobilised for communication. In this theory, it is in this process of preparing to speak or write that language influences thought processes since the speaker will select the objects or characteristics of the events which are readily encodable in their language. Studies of thinking for speaking therefore look at how online processes of retrieving particular categories affects the representation of reality or the selection of information in a specific task. Differences in information contributed are seen as an effect on memory and therefore a means for investigating short term recall.

Current research which incorporates this theory of Thinking for Speaking looks at how patterns of thinking for speaking may be restructured or relearnt in the L2; they also focus on the effects of language and verbal cognition by studying motion event construal. Briefly explained, a motion event describes the movement of entities through space (Stam, 2010). There are certain components associated with motion events:

- Motion – the movement
- Figure – the object which is moving
- Path – the direction or trajectory of the motion
- Manner – the way in which the movement is made

Languages differ in their expression of these motion events as some languages encode the motion along with path in the verb, and if manner is present it is indicated outside of this by an adverbial, for example. Other languages express the manner of the motion in the verb with path indicated by a satellite or particle. This difference led to the classification of languages according to whether they are verb-framed or satellite-framed languages (Stam, 2010; Talmy, 1985; 2000).

The contexts of these studies, as mentioned above, look at L2 learners and whether or not their perception of motion changes as a result of using another language. This was the context of Stam's (2010) study – she looked at whether an L2 speaker's pattern of thinking for speaking changed as her proficiency in the L2 increased. In order to assess this change, she conducted a longitudinal study in which an oral narrative was elicited from the participant, an L2 speaker, in both the speaker's L1, Spanish and L2, English. In 1997, the narrative was first elicited and analysed to assess how path and manner was expressed linguistically and gesturally. This task was carried out again in 2006 and further assessed for any changes in the expression of motion and path. Due to the typological differences in Spanish and English, motion events are expressed differently. The study found that the participant's expression of manner and path in her L1, Spanish, did not change from 1997 to 2006. However an aspect of development was evident in the participant's L2, English narration as her description of the path changed linguistically.

Language Typology

In assessing the oral narratives of monolinguals and bilinguals, the languages of focus in this study are English and isiZulu. Exploring the patterns of thinking for speaking of bilingual learners who have an L1 of isiZulu and an L2 of English may prove interesting as these languages are typologically different.

South African English is one of the English varieties which occur in the Commonwealth regions. In South Africa, English is both a highly influential as well as influenced language whereby, through processes of adaptation by the various communities of the country, many words have been adopted by and from Afrikaans and African languages (Gough, 1996). English serves as an L1 to 9.6% of the South African population.

A West Germanic language, English therefore stems from the Indo-European language family. It has a Subject-Verb-Object (SVO) sentence order and is a satellite-framed language (Talmy, 1985; 2000). Stam (2010; p. 62) explains that a satellite-framed language is one in which path, or directionality, is encoded on a satellite – or particle. She uses the example "he runs in" to demonstrate this. The verb "runs" shows the motion and the particle "in" encodes the 'path' that the motion takes place. As much as one could say "he runs into a friend", the particle "into" in this expression does not signify motion but rather someone meeting somebody unlike the previous example. The difference in a verb-framed language is explained whereby path or directionality is encoded in the verb. Stam (2010; p.62) uses a Spanish example to illustrate this – "el entra corriendo" or *he enters running*. In this instance, the verb "enters" is indicative of the motion, as well as the path whereas the manner of this action is mentioned through another particle "running".

Kunene (2015) documents isiZulu as a verb-framed language applying Talmy's typology (Talmy, 1985; 2000). IsiZulu is a Subject-Verb-Object (SVO), as well as an agglutinative language with a high number (about 15) of noun classes, triggering agreement on verbs, adjectives and other elements. In other words, "nominal and verbal modifiers follow the noun and verb respectively, and grammatical morphology is prefixed to both nouns and verbs" (Demuth and Suzman, 1997; p. 2). The subject can be dropped and it is, therefore, a pro-drop language as well (Suzman, 1985, 1991; Gxilishe, de Villiers and de Villiers, 2007; Kunene Nicolas and Ahmed, 2016).

This study will use the term Zulu to refer to the people who speak the language isiZulu. IsiZulu belongs to the broader Bantu language family. Bantu languages are typologically similar and share several typical grammatical features (Demuth, 2003). IsiZulu is a South Eastern Bantu language of the Nguni cluster spoken primarily in South Africa (especially the south-eastern provinces of KwaZulu-Natal), but it also has speakers in neighbouring countries. IsiZulu is highly mutually intelligible with other Nguni languages such as isiNdebele, isiXhosa, and siSwati. In 2011, South Africans citing isiZulu as their home language numbered 11.5 million, or 22.7% of the population, the language which has the highest number of speakers (Statistics, 2011).

Bilingualism and Second Language Acquisition

As previously mentioned, bilinguals can be broadly defined as individuals who acquire the knowledge and use of more than one language (Butler and Hakuta, 2004). Bilingualism may be further classified depending on the aspect in which one is focusing. As Grosjean (2000) states, bilingualism, or the ability to speak two languages is a difficult area of research to study as there are various ways in which a child can learn their second language. For example, some children born to parents who each speak a different language, may learn both the languages of their parents simultaneously; whilst another child may learn one language at home and upon reaching school be taught and learn in another. These factors are thus important in determining the effects of bilingualism on cognitive and academic language development.

The processes of first language acquisition shows what Bialystok (2001; p. 21) calls "enviable consistency" when compared to second language acquisition. Since children are biological beings they are able to learn language. Apart from receiving large linguistic input, it is also the social context within which they interact that contributes to language learning (Bialystok, 2001). In first language acquisition, a distinct pattern is evident as cries turn into babbles, babbling evolves into words and eventually words are joined to create sentences. Although the patterns of development are consistent, the mechanisms through which this development occurs are not so obvious. The features which contribute to language learning, as mentioned above, form the variables within which language acquisition has been studied and its different theories formed. These variables include cognitive factors, innate mechanisms and environmental factors.

In attempting to better understand language acquisition in both the first and second language, researchers found that there is a pattern of development which first and second language learners follow (Ipek, 2009). It is therefore evident that many similarities between L1 and L2 acquisition exist; these include developmental sequences, acquisition order and the role of input. Ellis (1994) states that three developmental stages are said to occur in the developmental sequence of L2 learners. Just as a child learning their first language goes through a period of listening, in learning their second language, L2 learners experience a similar, 'silent period' (as cited in Ipek, 2009). This silent period, the first stage in the developmental sequence, is often disrupted in the context of the classroom as learners are always urged to speak. While some believe that this silent period is a phase of

incomprehension, others such as Krashen (1982) claim that this phase assists in building competence in the learner through listening (as cited in Ipek, 2009). The second stage is referred to as formulaic speech, and may be defined as expressions or whole utterances which are learnt as memorised chunks. In the third stage, structural and semantic simplifications are added to language. These simplifications involve the omission of either grammatical functions or content words and are due to the linguistic forms being inaccessible or still not acquired.

A pattern in the order of acquisition, as mentioned above, occurs for both L1 and L2 learners as they acquire grammatical morphemes (Ipek, 2009). Morpheme studies (Brown, 1973; Dulay and Burt, 1974; Bailey, Madden and Krashen, 1974) which examined the acquisition of inflectional features and grammatical functions found considerable similarities in order of acquisition. Brown (1973) laid out the sequence for the acquisition of 14 function words in English, while Dulay and Burt (1974) also found a similar but un-identical pattern for the acquisition of these forms (as cited in Carroll, 2008). These function words or grammatical morphemes include the plural –s, the progressive –ing, articles, the past irregular and the possessive ('s) to name but a few.

Lastly, the role of input is widely accepted as essential to first and second language acquisition. Input refers to the language the learner receives or hears and therefore learns from. Input for L1 learners is said to be simple and comprehensible at first; as seen in the developmental stage, it is crucial in the listening period as it assists the infant in discovering what language is. Krashen (1982) encourages immersion and large exposure of the learner to the target language; he states that the lack of input may cause a L2 learner to be held up in their development (as cited in Ipek, 2009). As Hoff (2012) states regarding vocabulary, it is one of the most sensitive areas to input and experience. This type of vocabulary knowledge represents the interconnection between children's language and cognitive development and thereby informs theories of how children perceive the world.

As mentioned, the present research focuses on sequential bilingualism or second language acquisition which generally refers to the acquisition of a second language after one has already acquired the first language (Butler and Hakuta, 2004). Due to the differences in bilingualism and their situations, the link between bilingual development and literacy attainment has been questioned. Hence the nature of language learning in the bilingual environments of children have been brought to the fore by McCardle and Hoff (2006) as they

question the processes of language and literacy development, as well as the relationship between educational programmes and academic performance in children exposed to more than one language.

Studies have shown that in comparison to monolinguals, bilinguals underperform in linguistic tasks of vocabulary assessment; however in tasks of metalinguistic awareness their performance is better than that of monolinguals. Hence increasing evidence shows that it is not only the linguistic development of bilinguals which is affected by bilingualism, but also their nonverbal cognitive development. Through Morton and Harper's (2002) study, it was found that the relation between languages has a different effect on the development of basic metalinguistic awareness and literacy concepts. This finding suggests that the effect of bilingualism is dependent on the relation of the two languages (cited in Barac and Bialystok, 2012). The present study therefore aims to assess how the relation between English and isiZulu, may affect bilingualism and the performance of the narrative.

Pragmatic Acquisition and Development

In assessing the narrative, this research aims to look at language acquisition and development. To know a language means to know about its sounds and sound patterns, words and the way in which the language is used to communicate. Therefore the study of language development broadly ranges from phonological and lexical development to semantics and communicative competence. The way in which this study seeks to assess language acquisition and development is through the branch of pragmatics, the use of speech in context. In the most literal sense, pragmatics means putting language to use – it involves the understanding of language and the way in which it is used in actual situations. The acquisition of pragmatics therefore involves the development of competence in the communicative use of sentences (Pearson and de Villiers, 2005). These communicative practices include speech acts and conversation as well as speech registers and extended speaking turns or discourse. Therefore along with the development of syntactic competence, learners should in parallel develop communicative competence whereby utterances are judged more in terms of how they meet the requirements of various speech settings, as opposed to being judged only syntactically, or by their form. Research on pragmatic acquisition in the L1 has looked at four aspects of communicative competence (Pearson and de Villiers, 2005; pp.3-4):

1. The development of speech acts or the communicative function of sentences
   - This includes the ability to effectively use utterances to ask a question or make a statement, prohibit an action or request information.
2. Conversation skill in face-to-face verbal interaction
   - Does the individual know how to respond to the speaker and in keeping with the pragmatic constraints set by the previous utterances
   - Does the individual know how to initiate or terminate the topic in conversation, and take a turn
3. Adjusting the style or register of the speech in order to fit the social context of the conversation
   - Is the speaker able to adjust their speech in keeping with cultural conventions and social roles, for example formality in their register at a business meeting
4. Taking an extended turn to manage the different genres of discourse
   - For example by narrating or explaining an event or instructions; this involves the organisation of utterances into a cohesive and coherent text

Discourse Analysis

The study of discourse falls mostly under the field of pragmatics since it involves the use of sentences, which are a product of syntax (Pearson and de Villiers, 2005). Discourse refers to a structural unit which is larger than the sentence; however unlike the sentence, it is not defined by grammaticality but rather by whether it meets the requirements of the context. To understand connected discourse – the ways in which sentences are arranged, is somewhat more important than the meaning of individual sentences. Discourse is therefore an important aspect of sentence processing as we need to understand discourse structure before we are able to understand sentence structure.

Discourse abilities require one to decontextualize their thinking and therefore work on cognitive and social abilities. A child develops the basic tools for creating discourse through conversation once they are able to speak as well as elicit speech. Through longer turns in scaffolded conversations, children are lead to produce their first narrative and expository texts; which are both forms of extended discourse (Pearson and de Villiers, 2005). Bruner (1986) defines the narrative as a sequence of real or imaginary events by which people communicate or construct their actions. Simply put, narratives are connected passages which

relate past events. Expository texts share many characteristics with narratives as they are also passages of decontextualized text; however their primary aim is to relay information. Carroll (2008) mentions that discourse imposes a considerable burden on working memory and therefore serves as rich material to understand cognitive processing in language. The narrative has been studied as an index of development because of the complex nature of storytelling; it therefore provides a wealth of information and language which easily enables us to study discourse.

Looking at discourse, a study by Berman and Nir-sagiv (2007) incorporating the oral and written modals argued that two genres, the narrative and expository, differed in their underlying principles of organisation as well as linguistic expression. In their study, Berman and Nir-sagiv (2007) explain that in order to construct a well-formed text, children must first attain the appropriate mental representations of a particular discourse. By looking at its underlying structures, we are able to gain better insight into the construction of discourse in the narratives.

The clause is a grammatical unit which consists of a subject and predicate and expresses a proposition. Analysis at the clause level allows us to compare relative length and propositional complexity of the oral texts (Berman and Slobin, 1994). Hence we are able to assess how events in the narrative are related, and also observe any other cohesive relations which allow the text to be unified.

Pearson and de Villiers (2005) make mention of the two properties which are displayed by discourse – cohesion and coherence. These two concepts may be identified by a contrast between the local and global structure of discourse. The local structure, also referred to as microstructure, involves the relationships between individual sentences. De Beaugrande and Dressler (1981; p.3) refer to cohesion as the "ways in which the components of the surface text, that is the words we hear or see, are mutually connected." Referring to the relations of meaning which exist within a text, it is clear that the concept of cohesion is a semantic one. Cohesion occurs where the interpretation of an element in the discourse is dependent on another; these elements become potentially integrated into the text when one element presupposes the other. The different types of cohesion which may be found are that of reference, substitution and ellipsis, to name but a few, identified in Halliday and Hasan (1976). Thematic coherence, on the other hand, therefore relates to the global or macrostructure of organisation. As Carstens (1999) mentions, coherence is the main

component of textual study, because if a text is not coherent – meaning if it is not understood – then a good text was not produced. He also quotes Hatch (1992; p.209) as stating that "a coherent text has an underlying logical structure that acts to guide the reader through the text so that it sticks together as a unit."

The Narrative

In assessing language acquisition and development and thus the patterns of thinking for speaking in monolinguals and bilinguals, the study uses the narrative as a tool for measurement.

The task of storytelling is complex in nature as it requires the integration of cognitive, linguistic and social skills (Boerma, Leseman, Timmermeister, Wijnen and Blom, 2016). Using this method of children's narratives is significant because of its flexibility, applicability and palatability to children (Hoff, 2012). It offers insight into the domains of their learning, development and access to their lexical knowledge. Basic linguistic knowledge may also be examined through sentence construction which reveals semantic, syntactic and morphological skills. A pragmatic skill, the narrative allows for observation in a natural setting as individuals of all ages are able to engage in storytelling, a universal behaviour (Hoff, 2012). Hence the narrative forms an important cornerstone in school instruction and is used for both practical and theoretical reasons.

Practical reasoning behind the use of the narrative in school instruction is that most children enter school with at least some proficiency at understanding and producing this genre, as opposed to another genre which might need formal training, explanation or description (Peterson, 1994). Information conveyed through the narrative is also more readily comprehended and recalled as it is more palatable to children.

The narrative is also used as a tool of instruction for theoretical reasons; one being that the narrative is built on the basis of event knowledge upon which cognitive development is critical. In addition, cognitive skills are further enhanced when children listen to or produce narratives as this requires them to decontextualize their thinking. The narrative provides rich information about the linguistic development of children while assessing their ability to relate events. It draws on knowledge that goes beyond the specifics of any particular language and is therefore thought to be a less biased method of assessment as well as a valuable clinical and diagnostic tool (Boerma et al., 2016).

As mentioned, the complex nature of storytelling requires formulation, planning and organizing ideas beyond the level of the sentence and in the process, includes self-regulation (Kunene Nicolas, 2015). Through the use of the narrative structure in psycholinguistics, we are studying the development of both the linguistic means and the capacity to describe situations and connect events. Analysing more than 250 narrative texts from children and adults across five languages, Berman and Slobin's (1994) study involved the development of linguistic form and function relations. The term 'form' was inclusive of a range of linguistic devices such as grammatical morphemes, interclausal connectives and syntactic constructions; while the 'function' of these forms was to construct a cohesive and coherent text. The study provides insight on the shared patterns of development of the ability to construct well-organised narrative texts.

The three guiding themes found in the study of Berman and Slobin (1994) include filtering, packaging and development. These themes are relevant to the present study as it may serve as a framework within which to analyse the oral narratives. The first theme, filtering, is explained as the experiences which are filtered either through choice or language in order to become verbalised events. The choice of perspective in this instance refers to the choice of events to be related; the speaker may opt to highlight or downgrade certain aspects of experience and will therefore arrange these events accordingly. Thus, in order to guide a listener towards the realisation of the plot, a child must learn how to select and order verbalised events. An example of the way in which events are filtered is through the act of summarisation.

Packaging refers to how event descriptions are packed into larger units for the purposes of narration. A skilful narration will therefore include events packaged into hierarchical constructions and not merely a linear account of events. Older children, it was found, make use of syntactic devices and causality to package phases of an event; while younger children often use the most minimal form of event packaging, "and then", to segment the narrative account into event-size units.

The interaction of the cognitive, communicative and linguistic factors is discussed in the theme of development. Berman and Slobin (1994) explain how developmental trends can be seen in children's ability to deal with the more complex episodes of the story on the three above-mentioned levels. Cognitively, younger children cannot fully encode the perspectives of characters (in the narrative) versus that of the narrator's. On the communicative level, they

may not be able to fully assess the listener's point of view and linguistically, younger children lack the means and full range of formal devices for expression.

Narrative skills are therefore increasingly important as they may reveal language-based aspects of academic readiness as children begin to comprehend larger texts. Through studies with monolingual children, narrative development and literacy skills appear to be linked (Uccelli and Paez, 2007). A child's proficiency in the narrative may predict early literacy skills considerably due to its role in skills underlying school achievement, such as reading and writing. Compared to monolingual learners, bilingual children bring along a larger set of skills to the language learning process. Research on bilingual children's oral narrative development however is only at the early stages and is limited in Bantu bilinguals, especially children who are in the process of becoming bilingual.

In order to understand the development of oral proficiency in Spanish/English bilinguals, Uccelli and Paez (2007) looked at the developmental patterns amongst the oral vocabulary and narrative skills in a longitudinal sample of 24 Spanish/English bilinguals, ranging from kindergarten/pre-school to Grade 1. This study sought to understand how vocabulary, narrative productivity and narrative skills are related to each other as well as within and across languages. The Spanish and English data for this study was collected using standardized vocabulary tests and narrative elicitation tasks. The data was coded for productivity on two levels, namely story score and language score. Most children engaged easily in the narrative task. A positive association between narrative and vocabulary skills was suggested; findings of this study show that narrative skills positively affect English reading comprehension outcomes in Spanish speaking bilinguals. However despite showing significant gains in English vocabulary, most children continued to score below the monolingual mean in the first grade. With regard to Spanish, improvement was noted only in narrative score. On average, English skills were higher than Spanish skills in pre-school; for some of these skills this gap only increased over time. Ucelli and Paez (2007) concluded that many Spanish/English bilinguals lag behind monolinguals of the same age in oral language abilities. It was also noted that while monolinguals might develop language skills synchronously, the same might not apply to bilingual learners who may develop these skills at different rates in both their languages.

In the same vein, Gutierrez-Clellen (2002) noted that developing bilingual children may not always show corresponding levels of narrative development in both their L1 and L2. Since

children are usually assessed in their L2, educators may not be able to determine whether low literacy achievement stems from a limited L2 proficiency or whether it is due to specific language learning needs. In her study, Gutierrez-Clellen (2002) assessed the narrative performance of 33 typically developing bilingual children in their L1 Spanish and L2 English. Participants were required to complete a narrative retelling task and were then asked questions about the story, in each language. Findings of this study showed that, as hypothesized, typically developing children who are fluent in two languages may not display the same levels of narrative proficiency in both their languages. Instead, depending on the demands of the language task, children may perform better in one of their languages as opposed to an equal proficiency in both. While some children performed better in their L1, others performed better in their L2, and it is evident that bilinguals make different stylistic choices in each language.

Looking at this cross-linguistically and from a South African context, Kunene Nicolas (2015) aimed to elicit oral narrative behavior from both isiZulu and French speakers in order to investigate the developmental changes. This was the first study to look at the development of narrative abilities of isiZulu from a multimodal perspective. Kunene Nicolas hypothesized that the narrative ability develops with age and is affected by both culture and language. The participants in this sample consisted of 46 L1 isiZulu speaking children and adults, who were required to watch a wordless cartoon and then retell the story. This task was videotaped for later analysis both linguistically and gesturally. The results of this study, in keeping with the hypothesis, showed that although L1 isiZulu children aged 11-12 performed well on the narrative task, they were still not as able to navigate between the levels of the narrative as do the adults. Looking at the clauses of the isiZulu adults it was clear that they gave a more summarized account of their narratives and included a lot of non-narrative clauses. The developmental trajectory showed that the narrative becomes more informative and complex with age; and this trajectory corresponded with gesture use which also increased with age.

Lastly, from a study comparing L2 English narratives to that of L1 isiZulu narratives (Ahmed, 2015), it was found that there definitely is an effect on language complexity and gesture for both languages – English and isiZulu- indicating that these two modalities develop in parallel. Also, language has an influence on discourse structure, and through her study Ahmed (2015) explains how not only a difference in the language typology is present,

but how there also exists a difference with regards to culture and the way stories are told in English and isiZulu.

Mandler et al. (1980) have suggested that perhaps the structure of folktales may be a cultural universal, since it was noticed that there was stability in patterns of organizing and retrieving information across various cultural groups. Recall studies (Mandler, 1978; Stein and Nezworski, 1978) have shown how participants follow a canonical story form in recall, even if they had been presented with slightly disordered stories or episodes, thus suggesting that the concept of the story structure is a mental representation (as cited in Bamberg, 1987).

The goal of Bamberg's (1987) study was to highlight the differences in the narrative production of adults and children; and thereby understand the process of how the early narratives produced by children develop into the type of narratives produced by adults. This development in narrative production is commonly seen at the age of 12-14 years. Bamberg (1987) also noted that an individual's comprehension as well as production of the narrative is dependent upon general cognitive competencies as well as on one's notion of a particular narrative or story schema (p.4). As Mandler (1983 as cited in Bamberg, 1987) explains, a story schema is a representation of story structure, which is formed on the basis of hearing stories with common underlying structures. It may or may not be accessible to consciousness.

Considering Labov and Waletsky (1967), Bamberg (1987; p.5) acknowledges their use of a 'high point analysis' of the narrative. Labov and Waletsky (1967) identified one of the main functions of the narrative as being referential since it orients the listener to what the narrative is about, and where and how actions take place. In this instance, narrative clauses are said to be temporally ordered around these referential or *high points* and follow an initial orientation, complication, resolution and coda. This structure often incorporated free clauses, which also adds to the second, evaluative function of the narrative. One criticism of this structural approach is that it does not account wholly for the interactive quality of the narrative structure.

On the other hand, the schema approach leans more towards the psychological reality of the narrative structure (Bamberg, 1987). This approach may be traced back to Bartlett (1932, as cited in Stein and Trabasso, 1981). The schema approach aims at dealing with more general processes of representation when relating the narrative. Bartlett (1932) believed that listeners or readers used their prior experience or knowledge to build up certain expectations about

what should occur in a story; these expectations would then influence how a story was recalled. Through such an approach we are not only able to find out what the "ideal" story is, but also look at what information processes link up to which story structures (Bamberg, 1987; p.6). Bartlett (1932) also emphasised the interactive nature of this approach since listeners or readers interact with the input by integrating new input with existing knowledge. The story schema therefore guides the listener in this top- down process of encoding as well as in retrieving specific aspects of the story.

The schema oriented approach is widely accepted and has been adapted or extended by many researchers (Rumelhart, 1975; Stein and Glenn, 1979; Mandler and Johnson, 1977; Thorndyke, 1977; Kintsch and van Dijk, 1978 as cited in Stein and Trabasso, 1981). The present study therefore makes use of this story schema in assessing the narratives. The common underlying structures of this approach suggest that a story is comprised of a setting and one or more episodes. The setting component introduces the protagonist and describes the context of the story. Each episode would be linked sequentially therefore forming the plot of the story; the episodes consist of different components (Bamberg, 1987; p.7):

- Initiating events – could be described as the 'problem', it requires a response from the protagonist
- Internal response – this is the character's emotional response which usually contains a statement or goal
- Attempts – the protagonist's action according to his/her plan
- Consequences – the outcome as a result of the protagonist's action
- Reaction – this is a description of the character's cognitive or emotional response

Story schema essentially acts as a framework which allows the listener of the story to assimilate the narrative input (Hutson-Nechkash, 1990). Both story grammar and narrative developmental levels assist us in evaluating and assessing an individual's ability to structure and produce an oral narrative.

Gesture

Gesture involves an array of communicative movements mostly of the hands and arms, although it is not restricted to these body parts. Gestures appear to be a combination of both

universal and language-specific features. These features may be traced to certain characteristics of a language, especially those which mark a language to be either verb-framed or satellite-framed. Along with language differences, multimodal communication is also heavily influenced by culture which assists in shaping the social behaviour and social interaction in individuals (Colletta et al., 2014).

Gestures often reveal information that is not found in speech; according to McNeill (1992) speech and gesture share a computational stage hence they are part of the same psychological structure. This means that sentences and gestures develop together internally as psychological performances; and due to the close connections between the two modalities, gesture now becomes the second channel of observation for speech production. In Colletta, Guidetti, Capirci, Cristilli, Ece Demir, Kunene Nicolas and Levine (2014) speech and co-speech gesture were observed in children from three linguistic groups, American, French and Italian, through a narrative retelling task elicited from a wordless video clip. Important in this research was the study of the narrative behaviour development amongst the three groups which demonstrates the effects of the constraints of different languages and cultural backgrounds on multimodal communication (Colletta et al., 2014). From the results obtained, it was found that culture and language play a role in gesture production hence gesture differences occurred between the three linguistic groups. It is also important to note that because of the age groups of the children, 5 and 10 years of age, a common developmental trend was found and linguistic differences and gestures became more detailed with age (Colletta et al., 2014).

This keeps with the study of Kunene Nicolas (2015) who, as mentioned earlier, found culture and language to be a factor which influenced gesture. In her study, isiZulu speakers displayed an increasing developmental trajectory for gesture which was different to that of the French data collected, since French adults did not gesture as much as French speaking children. This difference is due to language and culture because in the Zulu tradition, orature and folklore is important, the more visual the performance the better the story (Kunene Nicolas, 2015).

Hence one aspect of gesture which we zoomed in on is the gesture form of speakers. Looking at the gesture form across the languages provides insight into how language and culture may not only affect thought, but gesture as well.

Language acquisition is also impacted by the gestural aspects of communication. The relationship between second language development and gesture has gained a considerable amount of interest in recent years (Stam, 2010). The role of gesture, according to studies, plays an important role in second language development; and therefore may contribute significantly as a resource in learning and as a component of language proficiency (Gullberg, de Bot and Volterra, 2010). An important part of second language development, cross-linguistic influence refers to the impact of existing languages on the acquisition and use of the new language. It has recently been found that in gesture too, L2 learners often display traces of the L1 in their gesture production and that the L2 also impacts on the L1 gesture (Gullberg et al., 2010).

Studies have shown that bilinguals use more manual gestures than monolinguals, suggesting that gesture assists in lexical retrieval or reduction of the cognitive load on working memory during speech production (as cited in Smithson et al., 2011). Since previous research has shown that depending on their proficiency in both languages, bilinguals have more difficulty accessing words in comparison to monolinguals (Gollan and Acenas, 2004; Yan and Nicoladis, 2009). Sometimes it is more difficult to access words in their weaker language, therefore they gesture more than monolinguals and more when speaking in their weaker language (Krauss and Hadar, 1999).

The following study by Smithson, Nicoladis and Marentette (2011) aimed to assess how frequently bilingual children gesture in a narrative retelling task, it also looks at the role of gesture in relation to the speaker and how bilingualism might affect gesture use. Researchers aimed to test whether measures of an individual's working memory, which was measured by narrative length and speech rate, predicted bilingual children's gesture. Gestures serve a cognitive function in addition to its communicative function; therefore gestures do not only assist in the packaging processes of what people wish to say (Kita, 2000), but it has also been proposed that they help hold this information in the visuo-spatial working memory as speakers construct their messages. This is useful in breaking down the cognitive load, or more particularly avoiding an overload of working memory during speech production. In Smithson et al. (2011) gesture was compared in three groups of children – English monolinguals, Mandarin Chinese-English bilinguals and French-English bilinguals. Use of such a sample was to account for generalizability since different languages and culture affect gesture use. Results of this study showed that the gesture rates did not differ between

monolinguals and bilinguals, suggesting that culture is more of a determiner of gesture rate than bilingualism and working memory.

Another study which touches on the multimodal aspects considered in this chapter is that of Laurent, Nicoladis and Marentette (2015). Their multimodal study looked at the narrative development in French-English bilinguals between the ages of 4-10 in both their languages. Speech and gesture was assessed as a function of age. The results of this study was inconsistent to that of Gutierrez-Clellen (2002), Ucelli and Paez (2007) among others such as Montanari (2004) and Verhoeven (2004) which shows that bilingual children have difficulties telling a story in one language or the other (as cited in Laurent et al, 2015). Narratives of the bilingual children in both French and English were elaborate and well-constructed and these stories developed with age. Older children were shown to have longer stories and varied their vocabulary more; in general their narratives became more organised and well-constructed in comparison to those of the younger children. In terms of gesture, the researchers were interested in finding out how the two modalities of language develop in relation to each other. Does gesture and speech start out as independent systems and then become integrated later on in development, or are these components merged and develop as one integrated system? Results of this study support the notion that these modalities are in fact two systems which become integrated through development. Findings also surprisingly showed that the relation of gesture to narrative ability was surprisingly weak as gesture frequency did not increase with age. However some evidence did suggest, on the contrary to Smithson et al. (2011), that bilinguals might use more gestures than monolinguals.

An area of focus, with regards to gesture, in the present study is on the temporal synchrony of gesture. Temporal coordination shows the close relationship of speech to gesture (Bergmann, Aksu and Kopp; 2011). By assessing the temporal relation of speech and gesture in monolinguals and bilinguals, we are able to gain more insight into their cognitive processes and development of language in relation to gesture. It has been noted that the closer the speech and gesture are semantically related, the closer the temporal relation between the two modalities. Bergmann et al. (2011) found that when the same idea is expressed in both modalities then the onset of gesture is closer to the lexical affiliate as opposed to when the information is complementary.

Chapter Summary:

The previous research and studies mentioned in this literature review provide insight into bilingual development and bilingual performance of the narrative. Uccelli and Paez (2007) noted that while monolinguals may develop language skills synchronously, bilinguals develop these skills at different rates. Likewise, Gutierrez-Clellen (2002) noted that developing bilingual children may not always show corresponding levels of narrative development in both their L1 and L2. The cross-linguistic study of Kunene Nicolas (2015) demonstrates how culture and language affects gesture; hence isiZulu speakers show an increase in their gesture use with age. These speakers give a very visual performance as orature and folk tales form a part of Zulu culture (Ahmed, 2015; Kunene Nicolas, 2015).

CHAPTER 3: METHODOLOGY

Introduction

The following chapter presents the research method used in this study. The study focuses on the patterns of thinking for speaking in bilinguals and monolinguals, as well as the development of the narrative task. Oral narratives of L1 and L2 learners of English and isiZulu are compared in order to establish their linguistic and pragmatic developmental trends in the two languages.

The study feeds into a larger project on the development of pragmatic skills of South African language speakers from Kunene Nicolas' (2015) research, NRF Grant TTK1207152954, therefore all data used in the present study came from an existing database (Kunene Nicolas, 2015; Ahmed, 2015; Ntuli, 2016).

Since the present study makes use of archival data, it is necessary to explain the methodology used in the collection of the oral narratives. This chapter, therefore, includes an overview of the method procedure used in the studies which elicited the existing data.

Overview of method procedure

- Previous studies

The same methodology was used across all the studies which contributed to the database of oral narratives. The procedure, used to elicit the existing narrative data, draws mainly upon that of Colletta (2009), Colletta, Guidetti, Capirci, Ece Demir, Kunene Nicolas, and Levine (2014) as well as Kunene Nicolas (2015). Following the procedure of McNeill (1992), participants are presented with a 2:45 minute video extract of a wordless cartoon from the series Tom & Jerry. The cartoon begins with a mother bird leaving her egg in the nest. The egg falls out of the nest and rolls into Jerry's house. In the house, the egg hatches and a baby woodpecker appears. The little bird starts to destroy the furniture and after a few failed attempts to calm the bird, Jerry gets angry. He decides to return the bird to its nest (Colletta et al., 2009; Ahmed, 2015; Kunene Nicolas, 2015).

The participants watched the video individually a total of two times before they were asked to verbally retell the story depicted in the cartoon in their L1 isiZulu or English, or their L2

English. The narrative response of each participant was videotaped, using *Sony HDR-CX190E Digital HD Video Camera Recorders*, for later analysis of speech and gesture production. The participants were informed about the story telling aspect of these studies; however in order for there to be no influence on the gestural productions, they were not made aware of this aspect of the study or of language as a whole. This type of experiment follows a quasi-experimental research design and is suitable for both the previous studies as well as the current because it fits the context of the study.

- Present study

The method procedure of the current study majorly involves the renewed coding and analysis of the existing data, following the coding manual (Colletta et al., 2009), especially developed for this type of study on oral narratives. Data files were gathered for each language group from the database and certain variables assessed using the coding manual. These variables and the transcription and coding of these files will be discussed in detail below. The information was exported to an Excel document to allow for the analysis of the data. Since the texts are compared and contrasted across the different language groups, a quantitative research methodology was incorporated into the analysis of this study. This type of research allows for the measurement and manipulation of, for instance, the identification of relationships between variables, as well as standardising research procedures (Dornyei, 2007). While quantitative research is focused on the measurement of entities and processes, qualitative researchers focus on the social construction of reality (Labaree, 2009). This means that on one hand, a quantitative research method will identify large-scale trends and make use of statistical operations in order to determine the causal and correlative relationships between variables (Crossman, 2018). On the other hand, qualitative research aims to interpret the meanings from the data in order to understand these processes and relationships. The present study, therefore, includes a qualitative analysis, on a smaller scale, to interpret the meaning of the phenomena which was measured in the quantitative analysis. Therefore, this study follows a mixed method research design.

Participants for this study

The sample of participants in this study consists of a total of 54 participants from three language groups; a bilingual group as well as two monolingual groups of participants. The

bilingual participants are L2 English speakers who have an L1 of isiZulu; whilst L1 English and L1 isiZulu speakers make up the monolingual groups.

As previously stated, the data used in this study was selected from an existing database; thus the L2 English came from Ahmed (2015) and the L1 isiZulu from Kunene Nicolas (2015), both collected from pre- and primary schools in KwaZulu Natal. The L1 English was chosen from Kunene Nicolas (NRF Grant TTK1207152954) and was collected from schools in the north of Johannesburg, Gauteng. All adult data was collected from students at the University of the Witwatersrand. This dissertation presents the first reporting of the English data that has been collected.

Selection of participants

For the current study, the selection of participants had to meet the criteria that they were from the specified language group to fit this investigation. The participants had to also fit into the required age groups. The files were selected according to their quality; this means those with the least amount of background noise and a fair amount of informational quality.

In order to evaluate the developmental milestones, these language groups were further divided into three age groups; aged 5-6 and 9-10 years as well as adults aged 18-21 years which served as a target group across each language. Table 1 below illustrates how the total sample of 54 participants was grouped.

Table 1: Language groups and age range of participants

AGE GROUPS	LANGUAGE GROUPS		
	BILINGUAL	MONOLINGUAL	
	L2 English	L1 English	L1 isiZulu
5-6 years	6	6	6
9-10 years	6	6	6
Adults	6	6	6
TOTAL:	18	18	18

Transcription and Coding

The software ELAN (http://tla.mpi.nl/tools/tla-tools/elan) was used in order to analyse the data; a multi-tiered coding grid assisted in annotating both the verbal and gestural data (Colletta et al. 2009, 2015; Kunene Nicolas, 2015).

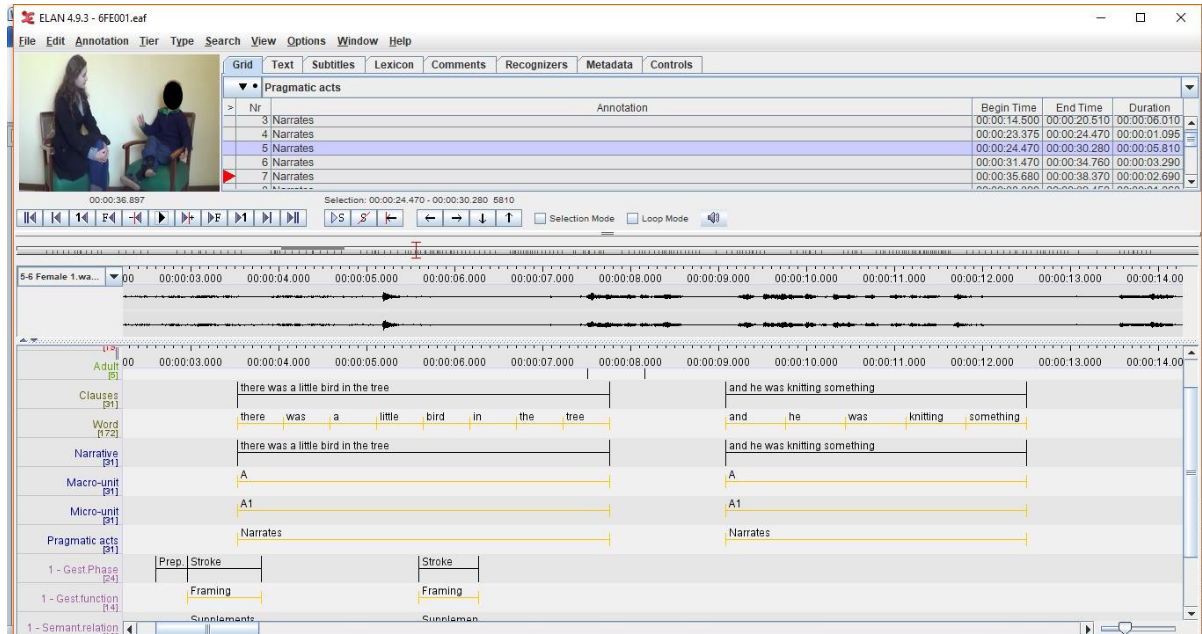

Figure 2: Illustration of ELAN coding grid

Inserted above is an example of this multi-tiered coding grid; it incorporates the video file along with an audio file for enhanced analysis. Adapted from the Belgium VALIBEL transcription system, it presents the conventions for the transcription of utterances and defines the linguistic and gestural variables for analysis (Colletta et al., 2009). Incorporating this, Colletta, Kunene, Venouil, Kaufmann and Simon (2009) provide a manual on multimodal data transcriptions, which was made use of in order to code the data. Extracts from the coding manual have been included in the appendix (Appendix 1).

Speech Coding

In *ELAN*, the orthographic transcription of the words of both the interviewer and child appear on two separate tracks and thus represents the entirety of the speech remarks including prosodic aspects. The speech coding was divided into linguistic annotation as well as narrative annotation.

Linguistic annotation

In the linguistic annotation, the child's speech was segmented into speech turns, clauses and words. For this study, I further coded the L1 and L2 English files. The audio file attached to the narrative file assisted in the segmentation of the speech into speech turns for the purposes of this research project. The rest of the data was randomly selected from the archived database.

Referring to the manual on multimodal transcriptions (Colletta et al., 2009) a clause is defined, logically, as a predicate matched by one to three arguments. Grammatically, it is defined as the continuation of words which includes a verb matched by its satellites as a subject and complement. Segmenting the oral transcription in this manner assists in verifying the developmental change towards complex syntax (Colletta et al., 2014). It also informs us about cohesion and lexical density.

At the clause level, the participant's utterances are sorted into clauses and then "tidied up". This means that all hesitations (*uhm, uh etc.),* false starts and restarts are removed in order to get a clearer picture of what exactly the participant is saying.

Example:

"*and he // p/ // he fell on a flower and the flower ... f/ ... // put it on a uhmm leaf*"

-and he fell on a flower
-and the flower put it on a leaf

Narrative annotation

This segmentation of clauses continues in the narrative analysis whereby the clauses are looked at on a narrative level and then categorised into the macro- and micro-episodes of the story, as well as the type of pragmatic act. This is useful in discourse analysis where we are also able to assess the establishment of the narrative schema, what participants are able to recall from the story as well as accuracy (Colletta et. al, 2009, 2014; Kunene Nicolas, 2015).

Macrostructure of the oral narratives

Categorisation of the narrative clauses into macro-episodes assists in mapping out the global structures of the narratives as retold by the participants. This is an important aspect of

discourse as it relates to the concept of cohesion. Below are illustrations of the seven macro-episodes which the clauses were segmented into:

A.

B.

C.

D.

E.

F.

G.

(Created by William Hanna and Joseph Barbera for Metro-Goldwyn-Mayer and Warner Bros. Barbera, Joseph 1994)

Sometimes, several clauses may be assigned to a single macro-unit or the opposite may occur where a macro-unit may not even be a subject of the clause.

In order to further analyse the structural characteristics of the narrative, the cartoon was segmented into macro-episodes and micro-episodes. This assisted in keeping track of the narratives of the participants as it served as an index as to how much or how little of the story was recalled.

In order to understand the acquisition of the narrative, the schema approach has been made use of. In doing so, we are able to assess which episodes are being recalled the most or least within this overarching structure of the narrative. The cartoon was segmented into macro-episodes as mentioned, and the underlying story structure of the schema approach was identified (Colletta et al., 2009; p.16; Bamberg, 1987; p. 7):

Episode Code	Episode Description	
A	In the nest	Setting
B	From nest to bed	Initiating events
C	The hatching	Internal response
D	"Imprinting"	Internal response
E	Damage	Attempts
F	How to calm the baby bird	Consequences
G	Back to the nest	Reaction

Having segmented the macro episodes into this structure of the story grammar, we are able to evaluate and assess the individual's ability to structure and produce an oral narrative. Episodic organisation is indicative of a well-developed narrative structure as it shows how events were filtered and related in sequence as well as the storyline maintained despite certain omissions, since narrators cannot recall every single detail.

Pragmatic acts

Comments, interpretations, narrations and explanations were the four types of pragmatic acts which were looked out for in the data. In speaking about the development of the narrative structure, the use of different pragmatic acts may also serve as an indicator of development of this genre. If a text was elicited and found to have more pragmatic acts of explanations for example, it would be indicative of an explanatory text rather than a narrative text. Categorising the clauses as such therefore assists in expressing them as speech acts.

Definitions of these pragmatic acts are found in the coding manual (Colletta et al., 2009; p.19) and examples of such acts which were found in the data are listed below:

> **Narrates:** in a narration, the participant tells the event as it appears
> e.g. *"it climbed onto the flower"* (Participant file: 9yrFem04_Zulu)
>
> **Explains**: the participant provides a supplementary explanation to the narrated event
> e.g. "and then it bounced, *because there was a bird growing in it*." (5yrMal02_Eng)
>
> **Comments:** a comment deals with neither the explicit or implicit aspect of the events which have occurred but may provide a "meta-narrative comment" which relates to a

character, action or any aspect of the story; or the participant makes a "para-narrative comment" and this relates to the action of telling the story, therefore it may include judgement or personal appreciation for example.

e.g. *"so it was obviously safe and everything."* (AdultFem01_Eng)

"that was the sense of the story." (AdultMal06_L2)

Interprets: the participant may make an inference or interpretation regarding the intentions of the characters or that which concerns the situation

e.g. *"and Jerry thought that it made a little baby."* (9yrFem01_Eng)

Gesture coding

To examine gesture, the present study explores the spontaneous gestures that learners produce when they communicate with others. Empirical researchers have shown how gesture provides an enhanced insight into the observation of mental representations (Stam, 2010). By looking at both speech and gesture we are presented with a more complete picture of a learner's proficiency as opposed to looking at speech alone; we are therefore better equipped to investigate language acquisition (Stam, 2010). The use of gesture as a variable in studies of language learning allows for researchers to ask more direct questions regarding vocabulary, syntax and narrative development (Cartmill, Demir and Goldin-Meadow, 2012).

Since this study deals with secondary data, many of the variables relating to gesture were already coded. Due to ethical considerations the video files were not attached to the overall narrative files however the tiers remained in the coding grid; hence I was able to still code many of the gesture variables. It was possible for me to gain access to the still images of the gestural movements, if more validation was required. In order to obtain these, permission was granted by the researchers who collected the data, Kunene Nicolas who heads the larger project on the development of pragmatic skills, as well as the Wits Ethics Committee (waiver letter attached in the appendix). The gesture phrase, its function, semantic and temporal relation, as well as gesture forms were all represented on separate tiers for identification. Attached in the Appendix is an illustration of the coding system for gesture which was followed (Colletta, et al., 2009). The following variables were coded in the previous studies and are further analysed in the present study:

Gesture phrases and gesture phases

Gestures were coded and segmented as gesture phrases which, for example, may include a pointing or representational gesture; the gesture may be preceded and followed by many movement phases. These consist of the preparation phase, stroke or actual gesture, the retraction and repositioning phase for a new gesture.

Firstly, all bodily movements made were analysed in order to identify gesture; only those which maintained a semantic relation were annotated- co-speech gestures. As Cartmill, Demir and Goldin-Meadow (2012) note, gestures may be defined in terms of three parameters which are also usually used to code conventional sign languages; these parameters are the shape of the hand, its movement as well as its location in space. Therefore, the gesture was scored according to movement, location and configuration (Kendon, 2004). In order for the movement to be identified as gesture, it had to score a total of three points or more (Colletta et al., 2009; p. 23):

If the **movemen**t is:
- easy to perceive: of good amplitude, marked well by its speed 2
- not easy to perceive: of small amplitude, not marked by its speed 0
- between the two: 1

If **location** is:
- in frontal space of locutor, for interlocutor 2
- on a side, little or not locatable by the interlocutor 0
- between the two 1

If the **configuration** (in the case of a manual gesture):
- corresponds to a precise hand shape 2
- corresponds to an imprecise hand shape 0
- between the two 1

Gesture form

A brief description of the form and movement of each gesture stroke was also previously coded. The most significant points of the movements were annotated (Colletta et al. 2009; p.30); such points are described below:

- Body part movement such as the head, chest or shoulders, the hands, and facial movements such as those of the mouth and eyebrows.
- The trajectory or direction of the movement, for example top, bottom, left, frontal or behind.
- The form of the hand or its shape, meaning whether the hand/s were flat or in a closed punch-like form, if the palms were down or facing up, fingers in a circle etc.
- The movement itself was coded for, for instance if it was repeated or not, a beat or head nod, or rapid.

Comparing the gesture forms across the three language groups will provide insight into how culture and language affects the production of gesture and whether gesture forms are different in English and isiZulu. We are able to assess whether gesture is transferred across the languages in bilingual speakers.

Synchronic relation

Co-speech gesture is defined by the temporal and semantic synchrony which accompanies speech. Therefore in order to examine co-speech gestures more closely, we focus on the synchronic relation of the gesture to speech. Bergmann, Aksu and Kopp (2011) point out that the closer the speech and gesture are semantically related the closer their temporal relation.

There are three temporal relations under which speech and gesture may be classified (Colletta et al. 2009; p. 29).

Anticipates: The speaker begins his gesture before the deliverance of the corresponding linguistic information; this means that the gesture stroke starts before the speech segment.

Synchronous: This refers to the simultaneous occurrence of the speech and gesture as the gesture stroke begins at the same time as the corresponding speech segment.

Follows: In this case, the speaker may begin his gesture only after having finished his speech segment, or during his deliverance of his linguistic information but posterior to the corresponding speech segment.

For the present study, the tiers that directly correspond to this investigation were re-coded from existing transcriptions for a more detailed analysis. Therefore, the function and semantic

relation was briefly reviewed with renewed concentration and analysis of the synchronic relation and gesture form.

Gesture function

Because both speech and gesture share a computational stage, McNeill (1992) suggested that gestures are symbols that are equivalent to various linguistic units in meaning and function. Certain functions and meanings were related to the gestures produced and annotated for in the data using the coding manual.

The functions of gesture that we identified are defined below (Colletta et al., 2009; pp.25-26; Kunene Nicolas, 2015; pp.6-7):

Representational: these gestures represent an object or property of an object, a place, a trajectory, an action, character or attitude which symbolises an abstract idea. They are hand or facial gestures, associated or not to other parts of the body.

Performative: gestural realisation of a non-assertive speech act such as a question or request for confirmation, or which reinforces the illocutionary value of a non-assertive speech act.

Framing: gestures which express an emotional or mental state of the speaker, they occur during narration (during the telling of an event, or commenting an aspect of the story, or commenting the narration itself).

Discursive: these gestures aid in structuring speech and discourse by the accentuation or highlighting of certain linguistic units. They may also mark discourse cohesion by linking clauses or discourse units with the help of anaphoric gestures or gestures accompanying connectives.

Interactive: these gestures are accompanied by gaze towards the interlocutor to express that the speaker requires or verifies his attention, or shows that he has reached the end of his speech turn or his narrative, or towards the speaker to show his own attention.

Word-searching: hand gestures or facial expressions indicative of the speaker searching for a word or expression.

The gesture-speech relation

These types of gestures were further classified according to their gesture-speech relation (Colletta et al., 2009). McNeill (1992) mentioned that in the computational stage, both semantic and pragmatic functions are decided upon and therefore speech and gesture performs these functions accordingly and in parallel. Hence, classifying the gestures according to their gesture-speech relation simply means that each gesture and its relation to the corresponding speech were defined; the gestures were given meaning (Colletta et al., 2009; p.27):

If the information brought by the gesture is identical to the linguistic information it is in relation with, it is said to be a **reinforcing** gesture.

When the gesture supports the verbal information, it brings a necessary **complement** to the incomplete linguistic information of the verbal message.

The relation of an **integrating** gesture to speech is that it adds precision to the encoded linguistic information, for example the mode of displacement or direction of trajectory of the action referred to, shape and dimension of the object referred to.

A gesture is **supplementary** when the information brought by the gesture adds further information not coded in the linguistic content.

If the information provided by the gesture is not only different from the linguistic information in which it is linked to but is also ambiguous, then its function is to **contradict**.

Sometimes information provided by the gesture replaces linguistic information. For example, nodding affirmation instead of explicitly saying “yes”; this is referred to as **substitution**.

Ethics

The original data collection was obtained through the required ethical procedures. The studies, from which the existing data was obtained, were only carried out after ethical clearance was granted by the Wits Ethics Committee for each project (protocol number H14/06/16, H14/06/32 and H13/08/29). In addition, a waiver letter was obtained by the Ethics Committee in order for this research to have access to the still images of the gestures.
Permission to go into public schools was also obtained from the KwaZulu-Natal Department of Education (see Appendices). The English data was collected from private schools whereby

permission was first sought and granted by the school. Furthermore, participants were only chosen once consent had been granted from both the school as well as the parent/legal-guardian responsible for the child; see Kunene Nicolas (2015) and Ahmed (2015). This was followed by a letter of assent, which the children had to sign, after it was presented to them in a child-friendly manner. All adult participants were required to sign consent forms, as well.

Reliability

Since this data comes from previous studies, it was already coded and then validated by a second independent coder for both speech and gesture. I was one of the coders for the gesture as well as the English data since I formed part of Kunene Nicolas' larger project on the development of pragmatic skills.

The speech coding was completely validated and agreed upon, however in terms of gesture coding sometimes the second coder had disagreed on what was previously annotated. Discussions and explanations took place with an arbitrator until consensus was reached and corrections made.

Data Analysis

For the quantitative and qualitative analysis of the data, all the information was exported from ELAN to an Excel spreadsheet in order to create a clearer picture of the data. In this manner, we were able to get an overview of certain variables, such as gesture forms across the three languages, at a glance.

Chapter Summary:

To conclude, this chapter presents the structure which the study as well as its participants followed during the process of data collection. This study makes use of a well-documented methodology, as well as the same stimulus mentioned in previous studies (Colletta et al., 2014; Kunene Nicolas, 2015 and Ahmed, 2015; Ntuli, 2016). Pavlenko (2003) makes mention the advantages of the narrative retelling task which has successfully been used for elicitation in SLA studies. The use of uniform non-verbal prompts allows for the data to be somewhat homogeneous in that the semantic referents are constant, although the narrative may allow for greater complexity of output. The transcription and coding of the data will include both a linguistic as well as gestural annotation. This study will be the first from the

larger project on pragmatic development, to present information on the English data that was collected, as well as on the temporal relations of speech and gesture. The temporal synchrony of co-speech gesture is one which we have not focused on majorly, in the South African context. In the following chapter, the results of this research are detailed.

CHAPTER 4: RESULTS AND ANALYSIS

Only participants who had completed the task were selected for this study. A total number of 54 narratives were compared and contrasted across the three language groups as well as age groups in order to assess linguistic and gestural development. Overall, the results revealed quite stark differences regarding the underlying structure of the narrative task and the performance thereof. The main differences which occurred stemmed from cross-linguistic and age factors, which are a sufficient indication of the level of second language development of the participants.

The results of this study have confirmed the results of previous research (Kunene Nicolas, 2015; Ahmed, 2015; Ntuli, 2016) regarding language and pragmatic development in South African speakers. For the purposes of the present study, the research questions are reiterated in order to analyse the results.

1. How is the oral narrative performed across different contexts - in English and isiZulu, as well as in the monolingual versus bilingual context?
2. What developmental trends emerge from these groups?

In order to assess how the oral narrative is performed across monolinguals and bilinguals, we first compare the results of the data from the linguistic and narrative annotation. This is followed by a summary of the gestural results which provide insight into the contribution of this visual modality to the oral narratives produced. Lastly, an insert on the qualitative analysis of the findings conclude this chapter.

The results are presented by first comparing the findings globally, across the two L1 groups of participants, as well as the L2 group. In order to refer to this grouping more easily, for the sake of this study, we broadly refer to the L1 English and L1 isiZulu, and L2 English groups as "language groups". Further, we assess these findings locally, by looking at each language individually; thereby establishing the developmental trends in each group.

Linguistic Analysis

Firstly, in order to analyse the underlying discourse structures and how events were related in the narrative genre, the narratives were segmented into clauses, pragmatic acts, as well as macro- and micro- episodes.

1. Informational Quality

1.1. The Clause Level

At the clause level, we will assess approximately how many utterances it took a speaker to complete the narrative by tallying up the amount of clauses produced on average. The results showed that all participants, across all three language groups, had produced an oral narrative and thus a sufficient amount of clauses to retell the story. Globally, there were both similarities and differences found at this level.

Table 2 showing the mean number of clauses produced in each age and language group

AGE GROUPS	MEAN NO. CLAUSES IN EACH LANGUAGE GROUP		
	MONOLING.		BILING.
	L1 English	L1 isiZulu	L2 English
5-6 Years	25,5	28,83	15,5
9-10 Years	18	46,67	21,33
Adults	18	41,67	27
TOTAL	61,5	117,17	63,83

From the table above, it is clear that the average number of clauses varies across all three language groups. The average amount of clauses produced by the monolingual English group appeared to level off with age; whilst the L2 English bilingual participants grew to contribute more utterances. We note that the overall average number of clauses was much higher from the L1 isiZulu group. The monolingual Zulu learners showed a great increase in the contribution of their clauses however this decreased slightly upon reaching the adult age group.

In order to compare the way in which the narratives were performed, each language group is assessed individually; beginning with the monolingual groups of participants:

L1 English

In this group of participants, the learners aged 5-6 years contributed quite a high amount of clauses to their narratives; this amount was slightly lower than that of the Zulu group but much more than the bilingual group. From the table above, a dramatic decrease is evident in the mean number of clauses produced by English children upon reaching the 9-10-year-old

age group. The narrations in this age group still follows the sequence of the story and includes sufficient information regarding the stories, however there are much fewer clauses produced on average. The same trend is seen in the adult age group where the number of clauses produced levels off and is the same as the amount produced by the previous age group. It seems that the participants aged 9-10 years appear to produce narratives which are on par with those of adults in terms of their length or how much information they contribute to the narrative. This may indicate that the narrative retelling task involves the narration of a more concise version of the story, and that this style or concept of the narrative schema in English is established at age 9-10. Therefore, the overall trend for the monolingual English group shows that with age, speakers of this language learn to summarise their narratives.

L1 isiZulu

The isiZulu learners aged 5-6 years produced the highest number of clauses on average in this age group across all the language groups. This indicates quite lengthy narratives for children of this age; and upon taking a closer look at their narratives we see that they are quite detailed. Contrary to the English monolingual speakers however, the Zulu participants show a large increase in the number of clauses produced after the age of 6. As a child progresses, they are able to use their language to relate more clauses and hence contribute more information to their narrative. This is clearly evident between the 5-6 and 9-10-year-old age groups where the mean number of clauses produced almost doubled at the intermediate level. At the adult age group, a decrease in the mean amount of clauses produced is visible. Thus, it may be assumed that this age group included summarisation in their narrative. This finding is in line with that of Kunene Nicolas (2015), who also found that Zulu adults summarise their narratives.

L2 English

In the bilingual group of participants, we are able to see a clear developmental trend with regards to language and its acquisition as well as that of the narrative schema. The results show an overall increasing trend in the number of clauses contributed across the age groups. This means that with age, the narratives became longer or contributed more information. The increase in the clauses contributed between the ages of 5-6 and 9-10 is a similar increase seen between the ages of 9-10 and adulthood. This is a considerable finding as it may reflect on the stages of second language acquisition and the establishment of the narrative schema,

which shows a linear trend of development. It is interesting to note that the L2 English group produced more clauses, on average, than the L1 English group of participants.

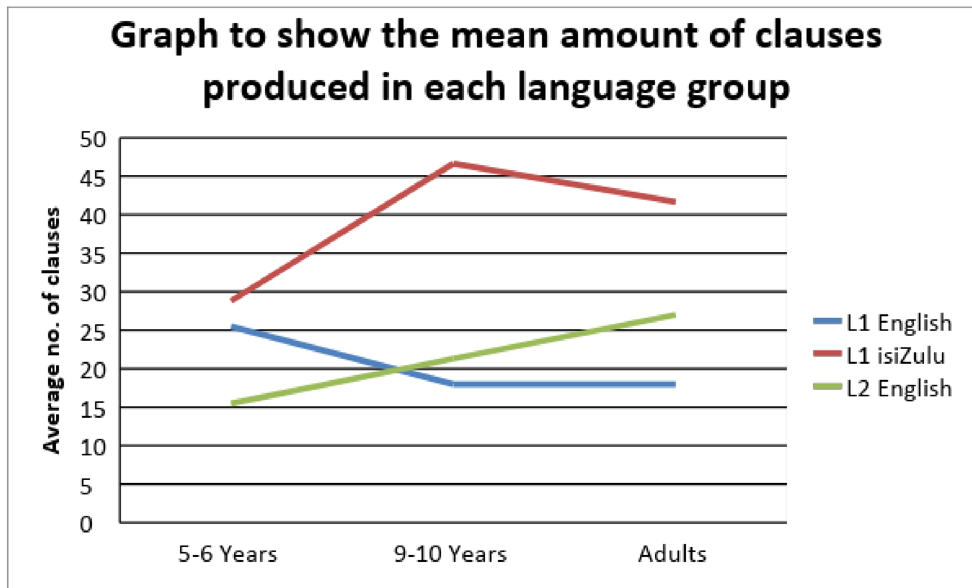

Figure 3: Graph displaying the language trends of monolinguals and bilinguals in their performance of the narrative

These results are a brief summary of the performance of each language group. From the graph, we are able to clearly see that the trends produced by each language group are completely different when merged together. The monolingual groups of participants show opposing trends as the L1 English group begins at a high and then decreases before levelling off. On the other hand, the L1 isiZulu group begins at a low and then increases sharply; this is followed by a slight decrease in the adult age group. A similarity, evident in the monolingual groups, is that both the English and isiZulu speakers were found to make use of summarisation in their narratives. In the middle of this, the bilingual group shows an overall increasing pattern in their development and therefore a linear trend.

In order to look at the languages further, we assess the language in terms of development and hence look at these developmental trends across the ages.

5-6 years

In the 5-6-year-old age group, across the languages, the L1 isiZulu learners produced the highest number of clauses on average. This is an indication of lengthier oral narrative texts by the Zulu participants across this age group. The L1 English learners produced the second highest number of clauses whilst the L2 English learners appeared to lag behind the two monolingual groups in terms of the amount of clauses that they produced in this age range.

9-10 years

Upon reaching the next age group, the bilingual group has shown an increasing trend with age. They produced almost half as many utterances as the L1 Zulu group in the 9-10 age range, the bilingual language group shows a slightly higher mean than the L1 English participants. An opposite finding is evident in that the number of clauses produced by the English participants show a large decrease whilst the average number of clauses produced by the Zulu participants show a large increase.

Adults

Evidence of this increasing trend in the number of clauses produced is further illustrated in the adult age range, where the L2 group produces a higher amount of clauses than in the previous, 9-10 age group. In the adult age groups of the monolingual groups, for the English, the average number of clauses produced stays at the level produced in the previous age group. The isiZulu participants showed a clear decrease.

The data above displays how, at the different age groups, speakers of different languages appear to be at different levels of development. This is more visible in L2 English speakers. The bilingual group appears to lag behind in the 5-6-year-old age range as they are only on par with monolingual children in this same age group when they reach the age of 9-10. It seems that bilinguals begin to grow or become more proficient in their second language after the age of 10. In the 9-10 age range, it is evident that learners in the two monolingual groups show how they develop their language differently where English speakers begin to produce fewer clauses, whilst isiZulu speakers have started producing more. Perhaps it is the patterns of thinking for speaking which may act as a framework of experience, in which the learners begin to shape the way they perform the narrative task.

1.2. Pragmatic Acts

In assessing pragmatic acts, we are looking at the categorisation of each clause as expressing a speech act. Essentially in looking at what each clause expresses, we are asking whether the speech act relates information about the story or does it for example, convey a feeling of the narrator about the story or character? Categorising the clauses as such assists us in pinpointing to exactly which clause contains the informational quality regarding the narrative.

In speaking about the development of the narrative structure, the use of different pragmatic acts serves as an indicator of development and establishment of the narrative genre. Narrations, comments, interpretations and explanations were the four types of pragmatic acts which were looked out for in the data, as explained in the previous chapter. The type of pragmatic act of each clause allows us to further assess the underlying discourse or discourse structure of the narrative.

Examples of the pragmatic acts found in the data are listed below:

Narrates:
L1 English- *then it *falled in the spider web* [5yrF002_E]
Comments:
L2 English- *and it was little* [9yrF002_L2]
Interprets:
L1 isiZulu- *kusho kuthi beyili thokozela leli qanda*
("it means it was happy with the egg") [AdM057_Z]
Explains:
L2 English- *because the first assumption was that the mother was in search for food* [AdM006_L2]

Overall every language group, monolingual and bilingual, had at some point across the age groups produced each of the four pragmatic acts noted. Hence, these types of clauses are not uncommon in both English and isiZulu. In line with the task, which is a narrative task, the data showed that the narrative pragmatic act was most dominant. If a text was elicited and found to have more pragmatic acts of explanations for example, it would be indicative of an explanatory text rather than a narrative text. The table below is indicative of these results.

Table 3 showing the average and percentage of each pragmatic act found in the clauses of each age group

LANGUAGE GROUPS		AGE GROUP	PRAGMATIC ACTS							
			Narrative		Comments		Interpretation		Explanation	
			Average	%	Average	%	Average	%	Average	%
MONOLING.	L1 English	5-6 yrs	24,83	98,02	0	0	0,33	1,32	0,17	0,66
		9-10 yrs	16,17	90,65	0	0	1,33	7,48	0,17	0,93
		Adults	14	79,24	0,33	1,89	1,83	10,38	1,5	8,49
	L1 isiZulu	5-6 yrs	27,3	98,8	0	0	0,33	1,2	0	0
		9-10 yrs	42	91,64	1	1,09	2,33	5,09	1	2,18
		Adults	34,67	80,31	2,5	5,79	4,33	10,04	1,67	3,86
BILINGUAL	L2 English	5-6 yrs	14,83	95,7	0,5	3,22	0,17	1,07	0	0
		9-10 yrs	18,33	85,27	0,33	1,55	1,67	7,75	1,17	5,43
		Adults	18,83	72,38	2,83	9,39	3,5	11,6	2	6,63

From the data above, we are able to see how, in each age group, the percentage of the narrative clauses gradually decreases. Although the number of narrative clauses decreases, the narrative clause is still the pragmatic act produced the most; this is only fitting as it is a narrative task. The insertion of other pragmatic acts is an indication of language and narrative development.

To assess the different pragmatic acts expressed across the languages, we will begin with the monolingual groups of participants:

L1 English

The narrative clauses produced across the age groups in this language group shows a decreasing trend with age, immediately indicating that there is a development and establishment of the narrative schema as there is a corresponding increase in the amount of non-narrative pragmatic acts produced across the ages. At the clause level, it was found that the participants aged 9-10 years were quite on par with the adult age group as both these age groups had produced the same amount of utterances, on average, in order to complete their narratives. Looking at the pragmatic acts allows us to assess this further, and we note that although these age groups produced the same amount of utterances on average, the narratives of the learners aged 9-10 years are, of course, not as developed as an adult's. From the table

above we see that 90, 65% of the narrations of the participants aged 9-10 years are made up of narrative clauses whilst 79, 24% of narrative clauses are found in the adult group. This indicates that the 9-10-year-old participants have not yet reached the cognitive level whereby they are able to stick to the narrative genre, yet decontextualize their thinking to insert or express other pragmatic acts. Therefore, we notice how there are fewer interpretations and explanations in the 9-10 year group than in the adult group. There was not a lot of commentary in the English narratives. This is evident in both groups of children, as commentaries were only made by the adults.

L1 isiZulu

Establishment of the narrative schema is evident in the monolingual isiZulu group as well. The table shows the expected decline in the narrative clauses with a corresponding incline in the other non-narrative pragmatic acts. The amount of non-narrative pragmatic acts contributed to the task increased with age. There is a neat progression regarding the insertion of the other speech acts to the narrative; the table shows a gradual increase of each pragmatic act with age. The highest increases were also seen in the percentage of interpretive acts across all age groups, similar to the L1 English age group as well. This shows that in narrating the story, the monolingual learners also made increasing interpretations of the story often regarding the characters' feelings and intentions.

L2 English

Assessing the percentage and types of pragmatic acts expressed in the clauses of the narratives of the age groups in this language group, it is evident that the number of narrative clauses produced by this group follows the overall narrative performance as set out in the clause level. The percentage of narrative clauses shows a steady decline while remaining the main speech act expressed in the clauses across the ages. We are, therefore, able to note the development of the narrative schema, also by analysing the other pragmatic acts produced. It is interesting to note that the bilingual group expressed a lot of commentary, which was uncommon in the monolingual groups. There is a higher percentage of comments in the 5-6 year age group than the 9-10 year group. At the adult level, the number of commentary clauses increases once again. In terms of the other non-narrative acts expressed, there is a steady progression as the number of non-narrative acts expressed in the clauses rises with age. This shows a good development and establishment of the narrative structure.

Taking a closer look at this development, we now assess this variable by each age group:

5-6 years

Regarding the narrative clauses, the participants aged 5-6 years across all the language groups, produced this type of pragmatic act well within the same range. The narratives in this age group are all made up of at least 95% of narrative clauses. There is a low number of non-narrative acts produced by this age group as the narrative schema is still being developed. We are thus able to see that learners aged 5-6 years mostly just give an event-by-event account of the narrative, without many other speech acts expressed in their narratives. It is interesting to note, however, that the bilingual participants in this age group contributed a significant number of comments to their narratives when none of the monolingual speakers this age had contributed any.

9-10 years

A common decline in the narrative clauses is noted for this age group. The number of narrative clauses related was in a similar range for the monolingual group. The bilingual group had produced slightly fewer narrative clauses than the L1 speakers. It is worth noting that the L2 speakers showed the highest increase in the non-narrative clauses produced. Therefore at this point, the L2 English speakers contributed more comments, interpretation and explanations to their narrative retelling than the L1 English and isiZulu groups of participants.

Adults

In the adult age group, it is evident that the narrative schema has developed since we notice an increase in the different types of pragmatic acts produced by the participants. The narrative clause, although produced at a much lower average than previously, still remains the overarching type of pragmatic act found across the oral narrations. This is expected, and crucial, in order for the task to qualify as a narrative task. The insertion of the other speech acts is a mark of development as the comments, interpretations and explanations which accompanied the texts added to the narratives' evaluative style.

It is important to assess the different types of pragmatic acts expressed in each of the clauses of the oral narrative task because the establishment of the narrative genre is evidenced by the use of certain pragmatic acts. The data showed that the main act employed in the narratives of the oral texts of all participants across the language and age groups, and as expected in this

genre, was the narrative act. The ability to interpret phenomena that are not present, or to be able to comment on and attribute inner states, feelings and intentions, represents a cognitively higher level of development. The development of higher levels of "structure-dependent" narrative organisation enables children to become more proficient at story-telling (Berman and Slobin, 1994; p.84).

2. Narrative Schema

2.1. Macro-episodes

In order to further analyse the structural characteristics of the narrative, the cartoon was segmented into macro-episodes and micro-episodes. This assisted in keeping track of the narratives of the participants as it served as an index as to how much or how little of the story was recalled.

In order to understand the acquisition of the narrative, the schema approach has been made use of. With the different performances of the narrative which have resulted from this study, we are able to assess which episodes are being recalled most, or least, within this overarching structure of the narrative. The cartoon was segmented into macro-episodes and for the purposes of this research analysis, further into the schema oriented approach in Bamberg (1987) as mentioned in the Methodology chapter.

Table 4 showing the average and percentage of macro episodes produced across the language groups

Macro Episode Code	**Average and total no. of each Macro-episode recalled**					
	L1 English		**L1 isiZulu**		**L2 English**	
	Average	no.	Average	no.	Average	no.
A	11,83	71	16,16	103	11,5	69
B	12	72	26,84	157	14,5	87
C	8,33	50	13	65	4.53	27
D	3,84	23	10,67	78	4	24
E	6,33	38	17,7	98	4,7	28
F	7,66	46	7,66	112	6,04	36
G	8	48	10,49	61	7,84	47
Total:	57,99	348	102,52	674	48,58	318

Overall, the participants from each language group had recalled all the macro-episodes of the story. Although there exists variation in the percentage of macro-episodes recalled, it is interesting to note that the macro-episodes recalled the most (A, B, G) were common amongst the L1 and L2 English language groups, whilst macro episodes A, B, and F were the macro-episodes recalled the most in the L1 isiZulu group. This reflects on the development of the story structure and narrative schema across the languages, and how the performance of the narrative across these groups may differ or appear similar.

L1 English

The English speakers recalled the second highest number of macro episodes from amongst the three language groups. This shows that for narratives that were summarised, the oral texts were still detailed and contained sufficient information to narrate the story. The macro-episodes recalled the most was episode A, B, C, F and G. In keeping with Bamberg's (1987) story schema approach, we find that this pattern of recall includes the initiating events, internal response, the consequences and the reaction according to the events in the story.

L1 isiZulu

Table 4 clearly illustrates the density of this language group's oral narratives. The Zulu participants had recalled the highest number of macro-episodes across all language groups, keeping in mind that they had also produced the highest number of clauses on average. The pattern of recall in this language group is set around the macro-episodes with the most recall – A, B, E, and F. This pattern, according to the story schema approach, involves a narrative which focuses on telling the initiating events, the internal response followed by the attempts and consequences of the characters.

L2 English

The bilingual English group recalled the least amount of macro-episodes, noting that the performance regarding their narrative showed an increasing amount of clauses contributed with each age group. It is important to note that the macro-episodes recalled by the L2 English group, is actually very similar to those recalled by the L1 English participants. The bilingual group recalled episodes A, B, F and G and thus the initiating events, internal response, consequences and then the reaction of the characters.

Recall of episodes A, B and G shows that the most basic outline of the story is evident in the narratives as they have a beginning and an end. The L1 isiZulu participants produced the highest number of macro-episodes and hence the most dense oral narratives; it is worth noting that the L2 English group also produced complete oral narratives in close range to that of the L1 English speakers. This is an important observation with regard to the memory and cognitive abilities of bilingual speakers. As previously mentioned, the narratives of the L2 English group became more developed with age as they began to contribute more clauses and thus recall more episodes. Although L1 English speakers had summarised their narratives, all crucial episodes of the narrative were present.

Gestural Analysis

Recent work has suggested that gesture plays a role in language development. It is not only through what children say, but also what they gesture that provides us with important insights about their language learning (Cartmill, Ece Demir and Goldin- Meadow, 2012). The present study is a multimodal study and therefore does not only look at the verbal aspect of language, but also the visual modality of language.

3. Gestural production

Assessing gesture in this study, the gesture phrases have been previously coded and each of its phases determined. In this study we analysed the gesture strokes, which are the actual gestures or the meaningful movements in a gesture phrase.

3.1. Gesture Strokes

As previously mentioned, a gesture phrase usually consists of the prep of the gesture, followed by the actual gesture or stroke; and then a return phase indicating the end of the gesture where the hands or parts of the body used in the gesture return to its resting position. Globally, the amount of gesture strokes produced by the speakers, in each language context, increases upon reaching the adult levels. An overview of the amount of gestures produced on average is illustrated below.

Table 5 indicating the mean amount of gesture strokes produced in each language and age group

AGE GROUPS	MEAN NO. OF GESTURE STROKES PRODUCED		
	MONOLING.		BILING.
	L1 English	L1 isiZulu	L2 English
5-6 Years	18,83	6	11,83
9-10 Years	17,5	21,33	20
Adults	23	54	42,17
TOTAL	59,33	94,33	74

From Table 5, it is evident that the highest production of gesture is found in the adult age group of each of the language groups. Interestingly, the L1 English group produced the highest number of gestures in the 5-6-year age group, although overall their rate of gesture production was the lowest. In contrast to this, the L1 isiZulu group who produced the least amount of gestures in the 5-6-year age range, had produced the highest amount of gestures overall. The L2 English group showed a clear progression and increase in their gesture production with age.

To assess the results locally, we begin with the monolingual groups of participants.

L1 English

This language group produced the lowest amount of gesture strokes overall. In the 5-6-year old age group of the monolingual English participants, there is a large amount of gesture strokes produced; it is evident that this is the highest average of strokes contributed in this age group across all languages. The 9-10-year old age range, surprisingly, decreased their gesture production although only slightly. However upon reaching the adult group, the number of gestures at this stage increased as the older participants gestured more; although overall, the English adults produced the least gestures.

L1 isiZulu

An opposite trend to the English participants is found in this monolingual group. Upon assessing the Zulu participants, it was found that the learners aged 5-6 years had produced the least amount of gestures across all language groups. A great increase is seen in the 9-10 age range where the gesture production more than tripled, thus making the average number of gestures produced in this age group the highest across all languages. This average doubled

further in the adult age level where these participants contributed the highest number of gestures overall. This finding, therefore, shows that isiZulu learners gesture more than English learners.

Comparing these results to our bilingual group of participants:

L2 English

In the L2 English group, a clear increase is evident with each age group. Like the L1 isiZulu learners there are huge jumps with each increase. In the 5-6-year old age range this language group produced less gesture than the English group but more gesture than the isiZulu learners. The opposite is seen at the 9-10-years and adult levels where the L2 English speakers produce more gestures than the L1 English learners but less than the L1 isiZulu participants. The adults contributed quite a large number of gestures and displayed the second highest number of gestures overall. We see that the bilinguals' pattern of gesture production is more similar to that of the L1 isiZulu participants.

To further assess the development of gesture across these language groups, the study will look at the mean number of gestures produced across the ages.

5-6 years

The first age group of participants reveals somewhat mixed results as the learners at this age appear to have different rates of gesture production. Whilst L1 English speakers are exhibiting a wealth of gestures, the L1 isiZulu speakers have kept their gestures to a minimum. The L2 English group appears to exhibit a medium-level of gesture production in comparison to the other two language groups. Therefore it can be said that the amount of gestures produced in this age group varies and is not within such a close range across the three language groups.

9-10 years

At the second level of the developmental analysis, there is a dramatic change in the gesture production of individuals from each of the language groups of this study. With regards to the L1 English group, after having contributed a high number of gestures at the previous 5-6 age level, there comes a slight drop in gesture production at the 9-10-year group. In an opposite manner, the L1 isiZulu learners show a dramatic increase in their production of gesture strokes. The L2 English group almost follows suit, as they also show an increase in their

gesture production at this age range. The mean number of gestures produced in this age group is at a much closer range than the previous level; gesture production at this stage appears to be at a similar level for 9-10-year olds of different language groups. This finding provides insight into the age and stages of gestural acquisition and production.

Adults

The target group, the adult stage, displays the highest number of gestures produced across all the age groups, as well as all language groups. At this stage, speakers are not only contributing more to their narratives linguistically, but they are also providing sufficient gestural input. L1 isiZulu and L2 English speakers have shown a similar pattern of development, one that is consistently increasing in gesture production with age. The mean number of strokes contributed across these two language groups are in a much closer range than the L1 English groups. The English monolingual group does not gesture as much as these speakers do.

Since the study has noted how speech and gesture develop in relation to one another, we should consider the linguistic results in comparison to our gestural results. As set out at the beginning of the chapter, the study looked at the mean number of clauses produced across the languages and age groups. Table 6 below compares these two variables in order to gain insight into the production of co-speech gesture.

Table 6 showing the average number of clauses produced in comparison to the average number of gestures produced across the language and age groups

Participants		**Mean no. of Clauses**	**Mean no. of Gesture Strokes**
MONOLINGUAL	**L1 English**		
	5-6 years	25,5	18,83
	9-10 years	18	17,5
	Adults	18	23
	L1 isiZulu		
	5-6 years	28,83	6
	9-10 years	46,67	21,33
	Adults	41,67	54
BILINGUAL	**L2 English**		
	5-6 years	15,5	11,83

	9-10 years	21,33	20
	Adults	27	42,17

According to the linguistic analysis, the L1 English language group grew to level off their narratives with age, and hence, after contributing a great deal in the 5-6-year age range, grew to summarise their narratives and keep it concise. This pattern is found in the gesture production as well since the amount of gesture produced at each age group remains in a close range to the amount of clauses produced in this language group. Likewise, the L1 isiZulu learners produced the lowest number of gestures in the first age range but developed to contribute more gestures with age. Linguistically, the L1 isiZulu also started off at a low then lengthened their narratives by increasing in clauses at each age level. The neatest progression and relation of clauses to gesture is found in the L2 English speakers. These participants both increased their amount of clauses as well as the number of gestures produced with age. These measures are in close range, across both variables. It is only in the adult stage that the mean number of gestures produced is far higher than the mean number of clauses produced.

3.2. Gesture Function

It has been mentioned that gesture stroke is the meaningful movement of the gesture phrase, after tallying up the mean number of gestures produced, the study will now look at the function of each of these meaningful movements. The previous chapter explored the functions that each gesture may have. To reiterate, gestures may serve a representational, discursive, framing, interactive, performative, or word searching function. Table 7 below indicates the main purposes of the gestures produced.

Table 7 which shows the overall function of the gesture contributed across the language and age groups

Participants			Representational	Discursive	Framing	Interactive	Word searching	Performative
MONOLINGUAL	L1 ENGLISH	5-6 years	13	3,17	1	0,67	1	0
		9-10 years	10,67	3,17	0,83	0,33	1,83	0
		Adults	15,67	7,3	1,83	2	1,83	0
		TOTAL	**39,34**	**13,64**	**3,66**	**3**	**4,66**	**0**
	L1 ZULU	5-6 years	4	0,33	0	0,67	0,83	0,17
		9-10 years	17,3	1,17	1	0,83	1	0
		Adults	36,5	7,33	2	2,33	4,83	1
		TOTAL	**57,8**	**8,83**	**3**	**3,83**	**6,66**	**1,17**
BILINGUAL	L2 ENGLISH	5-6 years	9	0,17	0	0	1,67	0,33
		9-10 years	13,83	3,5	0,17	0	2,17	0,17
		Adults	26	10,83	3	0	1,67	0,67
		TOTAL	**48,83**	**14,5**	**3,17**	**0**	**5,51**	**1,17**

The results show that, globally, the functions of the gestures contributed in this task were largely representational. As the participants contribute more gesture with each age group, the representational function also increases and therefore remains the highest average across each language group as well as each age group. An example of such a gesture would be abstract pointing or the representation of an egg shape by the cupping of the hands. Since this is a narrative task, this function of the gesture was anticipated as the learners tried to represent objects or properties thereof, show the trajectory, attitudes or actions of the characters.

After the representational function, the second most common function performed by the gestures was found to be discursive. These gestures included rhythmic movements of the hand or head accompanying certain syllables or words, brief hand gestures accompanying connectives and representational gestures with an anaphoric purpose. These gestures,

therefore, show how participants use these forms to aid in structuring speech and discourse by highlighting and accentuating certain aspects of the linguistic units.

The performative role of gesture was the function of gesture which was least expressed. These forms allow the gestural realisation of non-assertive speech acts. An example of such a gesture may be the nodding of the head in affirmation or the shrugging of the shoulders to express ignorance to a question. Therefore, it is evident that these gestures are not really suited to the narrative storytelling genre.

Placing the results in the context of monolingual versus bilingual, we will now look at each language group:

L1 English

In the monolingual English sample, the representational function of gesture was the most common function across all the gestures produced. The number of representational gestures drops slightly in the 9-10-year group, and if one recalls this corresponds to the average number of gesture strokes produced by this group. Overall, in each age group, we find that the representational function is followed by the discursive function which assists in the structuring of speech; and this in turn is followed by either the word searching or framing function.

L1 isiZulu

The isiZulu learners demonstrate much the same in terms of the function of the gestures that they produced – the gestures were mostly and largely representative as they increased in number with each age group. A high number of word searching gestures is found in the adult age group. The discursive and interactive function of the gestures show a neat progression with age as they increase at each age level. This finding appeals to the overall narrative development as we are able to see how gesture contributes to the discourse and thus storytelling as Zulu speakers often highlight certain linguistic units and interact often with their listeners.

Comparing the monolingual findings to our bilingual group:

L2 English

The findings, regarding the function of gesture in the bilingual sample, are the same as the monolingual counterparts. Gestures were found to be largely representational due to the

nature of the task, and this function was present and increased at each age group. Following this, there was a large number of discursive gestures, thus showing that bilinguals also make sufficient use of markers of cohesion and that they also emphasise certain linguistic units. What is of great interest is that the bilingual learners did not make use of interactive gestures which often includes gaze towards the interlocutor in order to express that the speaker requires attention or verification.

Overall, the L1 isiZulu group produced the highest average of representational gestures, most likely due to the fact that these participants had produced the most gesture strokes globally. The L2 English group produced the highest number of discursive gestures on average whilst the L1 English group contributed the most framing gestures. Interestingly, the bilingual group rarely produced interactive gestures and did not contribute the highest number of word searching gestures.

Taking each age group into consideration, we assess the development of this variable:

5-6 years

We see how with each age group the function of the gesture corresponds with the gesture strokes produced. In the 5-6-year age range, the majority of the gestures produced have a representational function. In the L1 English sample this function is followed by the discursive function whilst in the L1 isiZulu and L2 English groups it is followed by word searching gestures.

9-10 years

In the following age range, the same functions of the gestures increased as the gesture strokes increased. The most common functions of gesture was first, as expected for this genre, representational gestures, followed by discursive gestures and then word searching and framing gestures.

Adults

The last age group, the adult participants, demonstrate how each of the gesture functions increase along with gesture production. The L1 English participants showed that most of the gestures were representational, then discursive in function. Interestingly, the interactive gestures showed a sudden increase in this language group at the adult level. For the L1 isiZulu sample, the pattern was almost the same as gestures were largely representational and

then discursive. This was followed by word searching and then framing gestures. Similarly, when looking at the L2 English adults, representational and discursive gestures were the most common functions, however the framing and word searching functions followed thereafter.

From the above, it has been illustrated that the gestures produced in this task were, on a large scale, representative in function. This means that participants sought to convey information about the narrative through non-linguistic means. Their gestural representation included input regarding characters, directions, actions and objects. Following this, other gestures produced aimed to structure the narrative and provide a discursive function by tracking referents, providing markers of cohesion and highlighting certain linguistic units for emphasis. Since this task was a storytelling task, it made sense that the performative function was the least common since gestures of this sort are more common in answering questions through nodding of the head as affirmation or shrugging of the shoulder to imply that one does not know something. We are able to see that with age, the representative function remains constant thus providing insight into the development of the narrative in terms of the role of gesture.

3.3. Semantic Relation

After having looked at the number of gestures produced and the functions served by these gestures, the study now focusses on the semantic relation of these gestures to speech. The semantic relation shows how the gesture relates to the corresponding speech. Table 8, below, is reflective of these meaningful relations found in the gesture.

Table 8 shows the semantic relation of the gesture on average across the language and age groups

PARTICIPANTS			Reinforces	Integrates	Supplements	Contradicts	Substitutes	Complements
MONOLINGUAL	L1 ENGLISH	5-6 years	2,33	0	14,5	0,33	0,17	0
		9-10 years	0	0,83	15	0	0,5	0,33
		Adults	8,3	2,5	11,5	0	0,67	0
		TOTAL	**10,63**	**3,33**	**41**	**0,33**	**1,34**	**0,33**
	L1 ZULU	5-6 years	1	2,5	2,33	0	0,33	0
		9-10 years	0,67	10,83	9,67	0,17	0	0
		Adults	5,83	11,17	36,67	0	0	0
		TOTAL	**7,5**	**24,5**	**48,67**	**0,17**	**0,33**	**0**
BILINGUAL	L2 ENGLISH	5-6 years	0,17	2,67	7,67	0	1,67	0
		9-10 years	3,17	2,17	14,5	0	0	0,17
		Adults	9,5	10,67	21,83	0	0	0
		TOTAL	**12,84**	**15,51**	**44**	**0**	**1,67**	**0,17**

Overall, it was found that the most common relation of the gesture to speech was supplementary. These results were found across all language and age groups. A supplementary relation means that the gesture served largely to provide new information to the content which was not coded linguistically. Looking at Table 8, we see that the second most common relations of the gesture to speech were to integrate the gesture with the speech as well as reinforce. When gestures serve to integrate, they add precision to the linguistic information provided, for example in the mode of direction, the trajectory of the action or shape and dimension of the object being referred to. Representational gestures are largely integrating.

We now look at these findings locally by assessing each language group:

L1 English

The gestures of the L1 English participants served largely to add more information to the linguistic input of the oral narratives, hence they were supplementary. This language group thereafter contributed gestures which were reinforcing which means they were discursive in function. Complementary and contradictory gestures were hardly found amongst the English sample.

L1 isiZulu

The most common semantic relation of speech to gesture in the L1 isiZulu group was also the supplementary relation. Therefore the gestures produced contributed more information to the oral narratives. This was followed by an integrating semantic relation, as a lot of the gestures served to add precision to the linguistic information. The integrative relation largely follows gestures which are representational. There were no gestures which had a complementary relation to speech since this relation usually follows gestures which serve a deictic function.

L2 English

Similarly, the L2 English group produced gestures which, for the most part, held a supplementary relation to speech. The second most common semantic relation of the gestures were integrative as participants aimed to add precision to their linguistic input through their gestural production; this was followed shortly by reinforcing gestures. Reinforcing gestures relay the same information as the linguistic information.

In assessing the development of this semantic relation, the study looks at each age group:

5-6 years

The first age group shows how the semantic relations of the gesture vary at this stage. Across the L1 English participants, there were more supplementary gestures exhibited, followed by reinforcing gestures. There were no integrative gestures demonstrated. In the Zulu group, the gestures added precision and were therefore mostly integrative before it was supplementary. The opposite was evident in the L2 English group where gestures contributed more information to speech and was therefore supplementary, followed by the integrative relation.

9-10 years

In the L1 English group we find an increase in the supplementary relation of gesture to speech. These participants aged 9-10 years show the emergence of integrative gestures, which was previously not evident in the 5-6 year group. The monolingual groups showed contrasting trends in this age range. With regards to the Zulu group, the gestures were mostly integrative in their semantic relation to speech; these were followed by gestures which were supplementary and just a few which were reinforcing. In the L2 English sample, most of the gestures added supplementary information. This was followed by reinforcement through gesture and then integrative relations.

Adults

In the final stage, there was an overall increase in each semantic relation provided by gesture. For the L1 English group, the gestures were mostly supplementary. Where there were no reinforcing gestures in the previous 9-10 group, the adult level saw the inclusion of this type of gesture as the second most common semantic relation. This was followed by integrative gestures. The development of the semantic relation in the L1 isiZulu and L2 English groups followed the same trend at the adult level since the gestures produced were largely supplementary. This relation was followed by the integrative and then reinforcing relations.

Overall, it may be noted that gestures served largely to supplement information. This means that the contribution of gestures to the narrative were useful in supplementing more information to the linguistic input of the participants. The gestures were also found to add precision to the oral narrative; since there were mostly representational gestures found in the data, the supplementary and integrative relations are largely concerned with this function.

3.4. Synchronic Relation

Assessing the temporal synchrony of the gesture shows its relation to speech. As Bergmann, Aksu and Kopp (2011) note speech and gesture are systematically organised in relation to one another since they express the same underlying ideas, however not necessarily the same aspects of it.

Table 9 displays the average synchronic relations of the gesture to speech across the languages and age groups

			Anticipates		**Synchronous**		**Follows**	
PARTICIPANTS			**Avg.**	**%**	**Avg.**	**%**	**Avg.**	**%**
MONOLINGUAL	L1 ENGLISH	5-6 years	2,5	15,46	13,5	83,49	0,17	1,05
		9-10 years	3,67	16,07	17,83	78,1	1,33	5,83
		Adults	0,67	3,42	18,6	95,04	0,3	1,53
		TOTAL	**6,84**	**11,68**	**49,93**	**85,25**	**1,8**	**3,07**
	L1 ZULU	5-6 years	1	18,18	4,5	81,81	0	0
		9-10 years	1	6,12	14,67	89,78	0,67	4,1
		Adults	9,67	18,02	43,7	81,42	0,3	0,56
		TOTAL	**11,67**	**15,45**	**62,87**	**83,26**	**0,97**	**1,28**
BILINGUAL	L2 ENGLISH	5-6 years	1,33	11,24	8,6	72,7	0,33	2,79
		9-10 years	3,17	18,04	14,4	81,96	0	0
		Adults	3,17	5,81	51,2	93,88	0,17	0,31
		TOTAL	**7,67**	**10,39**	**65,67**	**88,93**	**0,5**	**0,68**

Across the monolingual and bilingual groups, it was found that the gestures were for the most part synchronically related, the second most common temporal relation was anticipatory, thus indicating that the ideas of the participants were expressed in gesture before they were spoken. Participants rarely gestured following the lexical affiliates. Hence the data shows that gesture is a modality of language and very much related to speech.

L1 English

The participants, aged 5-6 years, in this monolingual group illustrate that most of the gestures were synchronous in their temporal relation to speech. The overall percentage of gestures made in the 9-10 year group shows that while synchronous gestures decreased slightly, there was an increase in the percentage of anticipatory gestures. The adult level illustrates clearly

how the gestures were largely synchronous. This was followed by anticipatory gestures and then gestures which followed speech.

L1 isiZulu

We note that isiZulu-speaking learners aged 5-6 years showed no use of gestures which followed speech. As expected, the data showed that the synchronous relation was the most common type of temporal relation found across the ages in this group. The percentage of synchronic gestures increased in the 9-10 level whilst the percentage of anticipatory gestures showed quite a decrease. In this age group we see the emergence of following gestures. Interestingly, in the adult group, it appears that the pattern of temporal coordination is similar to that of the 5-6 year group. At this stage, there is a hike in the percentage of anticipatory gestures produced and a decrease in the following gestures. Upon comparison of the percentages of these relations, it is evident that they are much the same as the percentage of those in the 5-6 year group.

L2 English

Upon comparing these results to the bilingual group of participants, we find that there is a neat increasing trend throughout the ages as the percentage of synchronic gestures increases at each age level. There is also an increase in anticipatory gestures in the 5-6 and 9-10 year levels. Quite a noticeable decrease in these anticipatory gestures is evident in the adult age range. Gestures which followed their lexical affiliates were present in the 5-6 year age group but were not produced in the 9-10 year stage. Reappearance of these gestures was evident in the adult age group, but again not at a high percentage.

The development of the synchronic relation of speech to gesture is further discussed looking at each age group:

5-6 years

At this age level, the temporal relation of the speech and gesture always show that the gestures are mostly synchronous, across all language groups. There are varied percentages of gesture which anticipate speech however, these percentages remain less than synchronic gestures but always more than gestures which follow speech.

9-10 years

The 9-10-year old age group often shows mixed results across many of the variables we have looked at. In this instance, the synchronous relation remains the most common temporal relation of speech to gesture, and this percentage has increased from the previous age level, across all language groups. The variation comes from the anticipatory relation which in the L1 and L2 English group increases yet decreases in the L1 isiZulu group. The monolingual groups appear to increase in the number of following gestures in the 9-10 age groups, while for the L2 English group, following gestures are non-existent.

Adults

Finally in the adult groups, the increases in the synchronous relation of the gestures are clear across all the language groups. There still exists variation regarding anticipatory gestures. Both the L1 and L2 English groups show a large decline in the percentage of anticipatory gestures. These figures are also within close range of each other. The L1 isiZulu participants, on the other hand, show a great increase returning to the range of anticipatory gestures produced in the 5-6 year old group. Most of the percentages regarding the temporal relations of the gesture produced by the L1 isiZulu adults are in close range to the percentages produced by the 5-6 year olds of this language group. Whilst the monolingual groups – L1 English and L1 isiZulu– demonstrated quite noticeable decreases in the number of following gestures produced, the L2 English adults show how following gestures resurfaced in this age range after having none of these types of gestures in the previous age group.

In conclusion, the temporal coordination of gesture to speech is largely synchronous. This finding is significant because it demonstrates how speech and gesture co-occur and are therefore referred to as co-speech gestures. Since gesture co-occurs with speech and relates similar information as the linguistic input, the findings thus show that gesture is a modality of language and develops parallel to speech.

Chapter summary

With this, the research concludes the quantitative analysis of the results. We have taken into consideration the linguistic annotation of the task assessing the informational quality and hence language acquisition. From the results, we were able to gather that the narrative was performed differently across the three language groups, in terms of the amount of information

given seen in the narrative length. It was found that English speakers preferred to summarise their narrative accounts, while isiZulu speakers were keen on relating as much information as possible. The L2 English speakers displayed a linear trend and grew to contribute more information as well as more gesture with age. The research also analysed the development of pragmatics in assessing the establishment of the narrative schema through the oral texts. From this assessment we noticed how the 9-10-year old age group marks a significant stage of development. We know that at this age the narrative schema is established, and the results confirmed this further. Changes in the narrative trends, the addition of more pragmatic acts as well as gesture, were all evident in this age group. Lastly, gestural production was analysed and the study was able to consider the role of gesture as well as its function, meaning and temporal relations to speech. These variables were compared and contrasted across the language and age groups in order to assess the gestural similarities across language and culture. The main empirical finding was that gesture develops in relation to speech, since it the amount of gesture correlated to the amount of linguistic information narrated. Following the narrative task, the majority of these gestures served to add more information to the narrative as they were supplementary and representational in function. The following section looks at the qualitative findings of the data.

CHAPTER FIVE: QUALITATIVE ANALYSIS

A quantitative analysis provides for the measurement and manipulation of variables and therefore allows the identification of trends as well as correlative and causal relationships between the variables (Dornyei, 2007; Crossman, 2018). The previous chapter has provided insight into the language and developmental trends across our three language groups of participants. A qualitative analysis aims to interpret and understand the meaning or processes behind these trends and relationships between the variables; it also allows for the assessment of gesture form which was not covered in the previous chapter. Therefore, this study includes a brief insert of the qualitative analysis of gesture forms and the overall data in order to gain more insight into the results discovered in the quantitative analysis.

To recap, the previous chapter showed how all three language groups performed the narrative task differently. In terms of the amount of information contributed, it was found that the L1 English group recalled summarised versions of the narrative whilst the L1 isiZulu group provided more linguistic input in their narrations, with a slightly summarised recall in the adult group only. The L2 English group of speakers performed similarly to the Zulu participants as they narrated more clauses with age.

The data also illustrated how the narrative schema was established. This was evident through the insertion of narrative and other pragmatic clauses, as well as the overall macrostructure of the story. Looking at the macro-episodes recalled it was noted that all the episodes were remembered across the language groups. The most common episodes recalled across the language groups were macro-episode A, B, F and G.

The gestural analysis presented the amount of gesture strokes produced across the monolingual and bilingual groups. We note that the L1 isiZulu speakers produced the most gesture, followed by the L2 English speakers and then the L1 English participants. The most common function of the gesture was representational and this function was largely supplementary to the speech that it occurred with. Hence the semantic relation of gesture to speech was to add more information to the narrative. With regards to the temporal relation of the gesture to speech, the gestures were largely produced synchronously or sometimes anticipatory to the linguistic input. It was very seldom that a gesture was produced following the speech or lexical item it was affiliated to.

Sample of Participants

This section examines gesture form qualitatively in order to understand the processes of language and gestural acquisition and development. For this assessment, a sample of 18 participants was selected from the existing sample. The study looked at one male and female from each age group in each language group. Table 10, below is illustrative of this selection of participants.

Table 10: Language groups and age range of participants in the qualitative sample

AGE GROUPS	LANGUAGE GROUPS		
	BILINGUAL	MONOLINGUAL	
	L2 English	L1 English	L1 isiZulu
5-6 years	2	2	2
9-10 years	2	2	2
Adults	2	2	2
TOTAL:	6	6	6

The study looks more closely at two macro-episodes, B and F. These macro-episodes were chosen because, as mentioned, they were recalled more amongst all the language groups but also because these episodes consist of a fair amount of action which the participants could have related linguistically, gesturally or both.

For this analysis, the tiers that were going to be assessed were marked in ELAN and then exported to Excel for a close up, qualitative analysis. The tiers included the clauses, time, gesture form and synchronic relation. The micro-episodes of each clause were also identified. Analysis of the selected tiers allowed for the assessment of when each gesture stroke was produced in relation to what was said linguistically. We could pinpoint when the gesture started, thus allowing for the assessment of temporality by assessing which word the gesture fell on and what grammatical category it belonged to. This provided more insight into the co-speech gesture relation. The videos of the participants were also referred to, and this in turn also assisted with the assessment of the gestural forms across the language groups.

Macro-episode B

Figure 4, below, is a breakdown of macro-episode B, detailing the occurrence of events by each micro-episode:

B1 - The egg jumps about
B2 - The egg falls on a cobweb
B3 - The cobweb breaks
B4 - The egg falls on a flower
B5 - The flower drops the egg on a leaf
B6 - The egg rolls from the leaf to the house
B7 - The egg pushes the door open
B8 - The egg rolls up until it reaches the bed

Figure 4: Extract of macro-episode B7

Micro-episodes B1and B8 were most commonly recalled across all the language groups. These episodes mark the beginning and end of the macro-episode. The L1 English and L1 isiZulu group also recalled B2 quite often.

Analysing the gestures produced in this macro-episode, it was clearly evident that most of the gestures were representational and served to either supplement or integrate the linguistic input. Most of the gestures demonstrated verbs in motion events as well as path and trajectory. As previously mentioned, a motion event details the movement of entities through space (Stam, 2010). Manner, motion, figure and path are all components of a motion event. Languages which are typologically different, encode path differently. Looking at each language and the production of gesture, we will of course begin with the L1 English, monolingual group of participants

<u>L1 English</u>

The most common micro-episode recalled in this language group and across all age groups was B1, which illustrates the egg jumping about thus causing one to anticipate its fall. The word which was used most often to describe this action in this episode was "rolled" or "rolling". Participants appeared to gesture synchronously with the verb or manner of the motion. This was noted for all the verbs of manner which described this episode such as "bounced", "rolled" and "hopped out":

Figure 5: Adult Female, L1 English (AFE003)
"the egg rolled out the nest"

The participant above represents, in gesture, the rolling out of the nest.

In the second micro-episode, the gestures also appear to fall on the manner verbs, in this instance describing the way in which the egg left the nest – "falled* / caught" in the spider web. The gestures corresponding with "spider web" were not representational of the noun; rather they indicated the manner in which the egg fell. The gestures found in this language group indicated that the egg fell and also that it was caught in the web.

Episode B4 and 5 detail the way in which the egg fell onto the flower and then rolled down the leaf. To describe these events, manner verbs included *fell, bumped* and *caught*. Following this a participant demonstrated the trajectory of the action; hence this gesture is an indication of path. The images below, Figure 6 illustrates an example of a participant's gestural production of path which appears to start at a high place and ends down below – he points near the top of his head moving his hand all the way down to his leg, finger still pointing down.

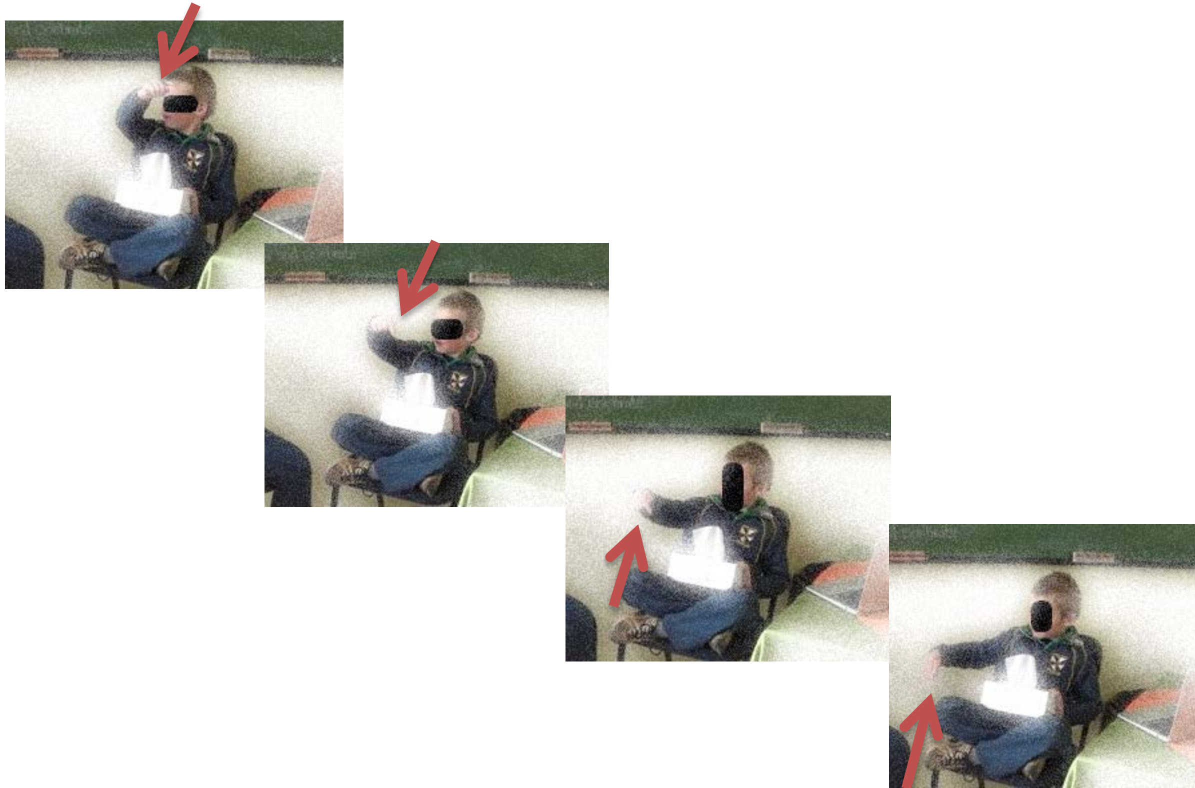

Figure 6: 5-6 year Male, L1 English (5ME002)
“down the leaf shape, like this”

This type of path gesture was not only found in the English sample, a similar gesture was found in the isiZulu sample as well.

Other gestures found included word-searching gestures. The images below, in Figure 7, are illustrative of this type of gesture where the participant is searching for a word to describe what Jerry stays in – a house.

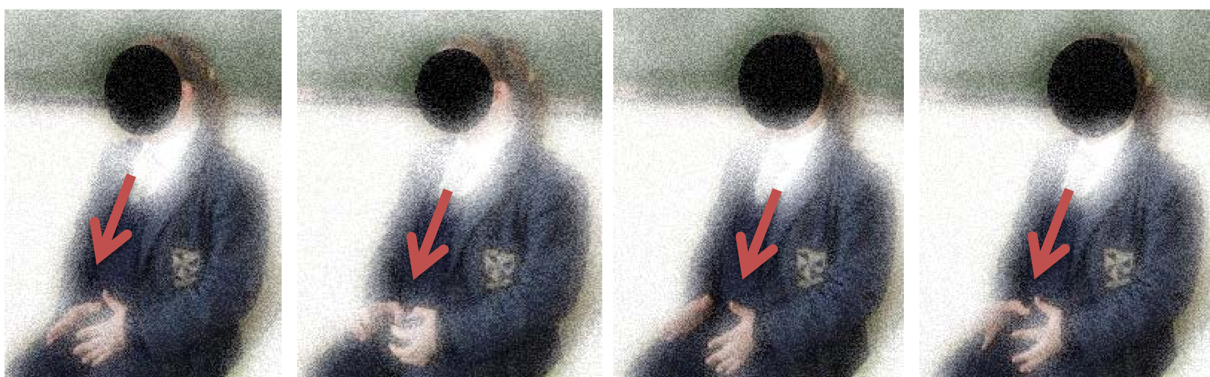

Figure 7: 9-10 year Female, L1 English (9FE003)
“into the little mouse’s … h ... home”

The participant began her utterance; while she paused hesitatingly, she produced the gestures above. The word “home” is synchronous with the gesture – opening of the hands indicating the properties of the object.

L1 isiZulu

The most descriptive gestures produced in this language group, was found in the 9-10 year age group. There were not as many gestures produced in the first micro-episode as there were in the L1 English group, however a participant aged 9-10 years did show a good use of gesture in this episode as well as throughout his narrative. In describing the jumping of the egg he mentioned how it bounced – "libampa" and details how it first circled the nest before it fell. The gestures below (Figure 8) are indicative of manner in describing the motion event:

Figure 8: 9-10 year Male, L1 isiZulu (9MZ002)
"iqanda labelokhu libampa" – the egg went on to bounce

In the images above we see the up and down movement of the hands as the participant recalled the egg bouncing.

In the next clause, the participant mentioned trajectory and uses gesture to show that the egg went around the nest. Still on micro-episode B1, these clauses already provide an indication on the way in which isiZulu speakers retell their narratives giving a more detailed account of events. Gesturally, the speaker displayed both manner and path in this episode. This participant would most likely be classified as a good storyteller by cultural standards as well due to his oratory skills and use of gesture in providing a visual performance, just as Zulu or African culture directs.

Figure 9: 9-10 year Male, L1 isiZulu (9MZ002): *"lasuka lapho larounda" – it went around*

In micro-episode B2, as in the L1 English group, gestures were representative of the manner in which the egg fell into the spider web. There were no actual gestures representing the spider web itself. The images below (Figure 10) present an example of a framing gesture; this type of gesture expresses a mental or emotional state of the speaker. In this case, the speaker is unsure of what the spider web is:

"it went to fall on something"

Figure 10: 9-10 year Female, L1 isiZulu (9FZ003)
"angazi" – I don't know

Micro-episode B4 and B5 elicited some interesting gestures just as it had in the L1 English group. These motion events were described using words such as *lawela (fell), labampa (bounce), yangena (entered)* and *yasuka* (*went/got up*). A difference in the typology of language is evidenced by these words as they display examples of how path is encoded in the verb. The images below are an example of how trajectory is illustrated in this motion event. The gestures in Figure 10 first depict the event in which the object – the egg – fell. These gestures touch briefly on the fall but ends in showing the position or space in which the egg fell – down or low-lying area. It is this space which serves as the beginning of the next set of gestures, Figure 11, which display path.

Figure 11: 9-10 year Female, L1 isiZulu (9FZ003)
"lawela e floweni"- it fell onto the flower

Figure 12: 9-10 Female, L1 isiZulu (9FZ003)
"iflowa yalibuyisela ngapha" - the flower returned it to this side

Like the gestures seen in Figure 6, these gestures are demonstrative of motion events and provide insight on the path of the object or action taking place.

The study will now look at the gesture produced in the bilingual group of participants.

L2 English

As per the quantitative results, the amount of gestures produced by this language group increased with age. Examining the data qualitatively, it is evident that this is true; the adult group produced much more gesture than the child groups.

Most of the gestures found were produced in the beginning, micro-episode B1, as participants related how the egg left the nest. This was described using words such as *jumped, come out, bouncing and bouncing, went out.* The gestures corresponded with the speech, in time as well since the gesturers were produced synchronously to the speech production of the verb. Examples are presented in Figure 13, below.

Figure 13: Adult Female, L2 English (AFB002)
"bouncing and bouncing"

The images in Figure 13 show a slight oscillating movement made synchronously to the production of the utterance "bouncing and bouncing". Although the movement appears slight, this is a clear gesture since the participant raised her hand from a resting position on her lap to produce this movement.

Another example of the gesture produced in micro-episode B1 shows how the participant's gesture is supplementary to his words. In this instance, the participant narrates:

- *then the egg come out*
- *then the egg fall*

(L2 English Male, 5-6 years)

The gesture provides more insight into how exactly the egg came out:

Figure 14: 5-6 year Male, L2 English (5MB003)
"then the egg come out"

The gestures above (in Figure 14) show that the egg had to go up out of something; in this case it is the nest, however, that was not mentioned linguistically. The last gesture also illustrates that the object/egg is high up. This is a good precursor to the next micro-episode and clause whereby the participant recalls that the egg fell after it came out. We are then able to see that it fell from high up.

In the next micro-episode, the egg falls on the cob web. In a South African context, the word spider web is used more than the word cob web, even amongst L1 English speakers. As mentioned, in the L1 monolingual groups, there were no actual gestures representing the spider web. Instead, the gestures represented the falling of the egg as it fell into the web. Interestingly, the word *spider web* was used as a referent in the L1 English group, just as it will be seen in the L2 English group. It was only in the L1 isiZulu group where the word produce some hesitation, for instance in the case above, Figure 10, where the participant

mentioned that the egg fell into “something, I don’t know – angazi”. Another participant recalled it as “spiderman’s house”.

In the L2 English sample, two participants made use of gesture in representation of the spider web. The following example, demonstrated by Figure 15, is illustrative of this.

Figure 15: Adult Female, L2 English (AFB002)
“all the way through the spider web”

All gesture forms of the spider web, noted in the data sample, included open flat hands.

Micro-episode B4 and B5 were previously shown to elicit gestures which represented path. The L2 English group appears to rather represent the objects involved in the motion, hence the gesture representing the spider web. In episode B4, the bilingual participants appeared to represent the flower on which the egg falls.

Figure 16: Adult Female, L2 English (AFB002)
“and it goes onto the flower”

From the analysis above, there appears to be some similarities and differences in the gestures produced by the monolingual groups and bilingual group of participants. Macro-episode B is an initiating event and it also is an episode which contains a lot of action. This action included motion events which were recalled both linguistically and gesturally.

Similarities found across the data are evident in the micro-episodes which were recalled in macro-episode B. All the language groups most commonly mentioned the beginning and end of the events in this episode. It was also common for most participants across both the monolingual and bilingual groups to make use of gesture in micro-episode B1 and represent the motion of the egg leaving the nest. Through the gestures of the participant we were able to see the manner of the motion in this event.

The gestures were also largely synchronous, as discovered in the quantitative analysis. In order to analyse the gestures qualitatively, each gesture was looked at in terms of form and temporal relation. This means that the production and form of each stroke was looked at and how it corresponded with the linguistic input - when did the gesture begin and what was the participant saying at the time? Was the corresponding speech or word a verb, a noun or figure, etc.?

Many of the gestures produced represent motion events and for the most part they corresponded with manner verbs across the three language groups. However, more manner and path gestures were found in the English group, as well as in the isiZulu group – there were fewer path gestures and more manner gestures in the L2 English group. It is interesting to note that there were no specific representations of the egg across all the languages. A difference which was evident was the representation of the spider web in the bilingual group. The two monolingual groups did not gesturally represent the actual spider web; instead they produced the falling gestures of the object as it reached the spider web.

Throughout the data, there were examples of gestures which clearly marked the trajectory of the objects. The gestures showed movement of the hands from high points in the frontal space above the head to lower points moving down, as well as direct movements illustrating path from the right space to the opposite, left space. These examples were seen in the monolingual language groups but not in the bilingual language group.

Macro-episode F

To consider the next episode, the breakdown in Figure 17 details the events of macro-episode F; this illustrates the way in which the mouse tried to calm the baby bird.

F1 The mouse has an idea
F2 The mouse searches for something to eat
F3 The mouse holds out a morsel of food
F4 The baby bird eats
F5 The mouse hands another morsel of food
F6 The baby bird eats the morsel of food as well as the mouse's arm
F7 The mouse shakes himself free
F8 The bird gets stuck on the floor
F9 The mouse pulls the bird free
F10 The mouse wipes its forehead and prepares to sit down
F11 The baby bird destroys the stool and the mouse falls

Figure 17: Extract of the events in macro-episode F

Micro-episode F3 was recalled the most across all the language groups of participants. The L1 English speakers also commonly narrated micro-episodes F4 and F6 whilst the L1 isiZulu group along with the L2 English recalled F10 an F11 more often. The study will now consider the gestural forms produced in this segment, beginning with the monolingual groups of participants.

<u>L1 English</u>

Only half of the participants in this sample of L1 English speakers recalled macro-episode F, additionally proving that English speakers summarise their narratives. Furthermore, the participants who narrated this episode were from the 5-6 and 9-10 age groups, thus showing that upon reaching the adult age group this episode was not deemed necessary to relate what Mani (2005; p.5) calls, the "aboutness" or essence of the story. The participants in this language group mentioned mostly the beginning part of this macro-episode as they recollected how the mouse tried to feed the bird and got bitten in the process. The gesture below, in Figure 18, is representative of how the bird ate the food. Gestures representing this eating or pecking action were common across the other language groups.

Figure 18: 5-6 year old Female, L1 English (FE001)
"then he knocked it"

With this gesture seen in micro-episode F4, the hand moves slightly to each side to show the manner in which the bird ate – almost imitating the pecking motion. This motion is seen again in episode F11 where the bird pecks on the stool. It is less subtle than the previous gesture. Both the gestures are synchronous to the speech they occur with and commonly coincide with the word "knock".

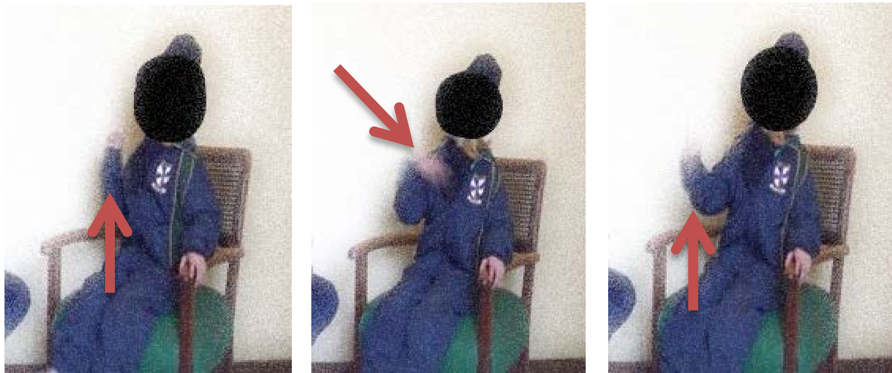

Figure 19: 5-6 year old Female, L1 English (FE001)
"it knocked her down"

As can be seen above, the gesture represents motion. Similar to the previous gesture, the left hand is moved back and forth, except that it was much faster, demonstrating the manner in which the bird pecks.

In episode F6, participant demonstrates how the bird bites the mouse's arm therefore the gesture is reflective of the manner of the verb. The gesture is synchronous to the word "got"; this word was used to describe the act of the bird biting. This gesture is made by the participant clutching the right hand with her left hand.

Figure 20: 5-6 year old Female, L1 English (FE001)
"then it got on her finger"

Most of the gestures in this group came from the participant in the 5-6 year old age group. As stated, macro-episode F was not commonly mentioned by the L1 English participants due to them summarizing their oral accounts.

<u>L1 isiZulu</u>

In the Zulu group, proving true to the results mentioned in the previous chapter, these participants narrated more details about the cartoon and therefore attempted to contribute more information rather than provide just an outline of their stories. At least one participant in each age group made mention of this episode. The commonly recalled episodes in this group were F3, F6, F10 and F11.This means that the participants narrated the beginning, middle and end of macro-episode F as they mention the initiating events right up until the reaction. We now analyse the gestures produced in these narrations.

Figure 21: 9-10 year old Male, L1 isiZulu (ME002)
"wathi wayidonsa"- he tried to pull it

In the gesture above, the right hand of the participant is moved back and forth as he demonstrates the way in which the mouse tried to shake the bird off. In this case the participant uses the word *pull* or "*wayidonsa*" in his narration and it is this word that the gestures coincide with.

Considering micro-episode F6, two common gestural representations were found across the 9-10 and adult age groups. Participants demonstrate how the bird bit the mouse's arm.

Figure 22: 9-10 years old Male, L1 isiZulu
"waphinda wasinika igalo" – he then gave it the hand

This gesture was made with the right coming forward with the left hand going in to hold onto it. It represents the manner in which the mouse "*gave it the hand*". The gesture was produced in synchrony with the speech that it was uttered with, and then it was repeated.

Figure 23: 9-10 years Male, L1 isiZulu
"waphinda wasinika igalo" – he then gave it the hand

Figure 23 demonstrates the repeated gestures, again with the left hand going in to clutch the right hand. The same gesture is demonstrated in Figure 24, found in micro-episode F6, represented by an adult in this group of participants.

Figure 24: Adult Female, L1 isiZulu
"aze adle ngisho nenga" – and then he even eats the hand

This gesture is representative and was anticipated as it occurred before the word *"adle"* or *eat.* The participant clutches her right hand with the left hand. It is interesting to note that this exact gesture, whereby the left hand clutches the right hand to represent the biting of the mouse's arm in micro-episode 6, was found across both the L1 English and 1 isiZulu groups.

We now compare these results to the bilingual group.

<u>L2 English</u>

Lastly, in the bilingual group of participants, it was found that the more common micro-episodes recalled were F3, F10 and F11. L2 English speakers therefore mentioned the very beginning and the very end of the episode. Additionally, unlike the L1 English and very much like the L1 isiZulu group, more than half of the participants in this group recalled episode F. A common occurrence across all the participants, in all language groups, was the mention and gesture of the manner in which the bird ate. Taking a closer look at gesture we will assess the ways in which the bilingual participants represented this action, keeping in mind that although participants may have mentioned the macro-episode, they may not have all gestured about it.

The first sets of gestures we will look at are word searching gestures

Figure 25: Adult Female, L2 English

The gestures in Figure 25 do not coincide with any words since the participant is word searching. At this point the participant is shown to change her hand shape and position as if trying to represent what she wants to talk about. They do anticipate the gestures which follow as pictured in Figure 26.

Figure 26: Adult Female, L2 English
"the funny thing, I don't know"

In this case the gesture of the participant relates more information than the speech. It appears that the participant still does not know exactly how to describe or narrate that part of the story – the bird's manner of pecking or eating. We see the gestures in Figure 26, although brief, are representative of the pecking motion even though this is not mentioned linguistically.

The eating is finally mentioned by the participant in Figure 27 as seen below. The brief hand movements accompanying the speech are discursive thus aiding the speaker in structuring her speech.

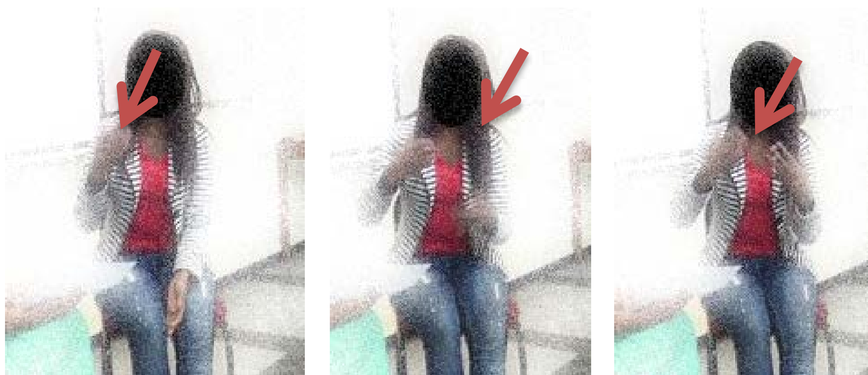

Figure 27: Adult Female, L2 English
"but it's the way it was eating you see"

From the analysis of macro-episode F, it was found that not as many speakers recalled or narrated this episode. The English speakers recalled this episode the least whilst the isiZulu and L2 English speakers narrated this episode more often; thus providing further evidence that each language group narrated the story differently; some summarizing whilst others contributing more information and details to their narratives. The L1 English participants recalled mostly the beginning of the story whilst the L1 isiZulu speakers made mention of the

beginning, middle and end. To compare our bilingual group, the L2 English participants mentioned mostly the end events of macro-episode F.

There were mostly similarities in the gestural forms and representations of certain micro-episodes. For example in micro-episode F6, both the English and isiZulu speakers produced the same gestures when they represented the bird eating/biting on the mouse's arm – the left hand would clutch the right hand. On the other hand, the bilingual group did not make a similar representation when speaking about this micro-episode. The participants displayed more word-searching and discursive gestures.

The events which occurred in this episode included significant action but did not include anything on trajectory as opposed to macro-episode B. The majority of the gestures produced were synchronous, they were largely representative and mostly displayed the manner of the verbs.

Chapter Summary

This qualitative analysis brings to light some similarities and differences in the gestures produced by the monolingual and bilingual groups of participants. The first similarity being that, overall, the majority of the gestures produced were synchronous to the speech it occurred with, in both macro-episodes; hence we are indeed dealing with co-speech gesture.

The gestures elicited in macro-episode B largely illustrated motion events, which appeared to correspond with manner verbs, across all three language groups. There were many examples of gestures which clearly marked the trajectory of the objects, seen mostly in the L1 English and isiZulu groups. There were fewer path gestures and more manner gestures in the L2 English group. These actions were recalled both linguistically and gesturally.

On one hand, it was found that the two monolingual groups – L1 English and L1 isiZulu- shared a similar representation of their gesture – whether in gesture form or the objects/events which were represented gesturally. On the other hand, the L1 isiZulu and the L2 English groups were similar in their linguistic contributions, since they appeared to narrate like micro-episodes. This was predominantly seen in macro-episode F.

Macro-episode F was not commonly narrated or recalled. The English speakers recalled this episode the least whilst the isiZulu and L2 English speakers narrated this episode more often, thus providing further evidence that each language group narrated the story differently; some summarizing whilst others contributing more information and details to their narratives.

The majority of gestures in this macro-episode were largely representative and more illustrative of manner, as opposed to path in macro-episode B. Again, there were instances where the L1 English and L1 isiZulu produced the same gestures compared to the bilingual group; thus suggesting that the patterns of gesture production differ in the bilingual group.

CHAPTER SIX: DISCUSSION AND CONCLUSION

This study aimed to focus on language and pragmatic acquisition and development of South African speakers in a monolingual versus bilingual context, in order to gain insight into the patterns of thinking for speaking. The theory of Thinking for Speaking was postulated by Slobin (1991) and emerged as a revised version of linguistic determinism. It refers to a special kind of thought mobilised for communication, where, in this on-line process of thinking one fits one's thoughts into the available linguistic units (Slobin, 1996; p.76). Stam (1998) proposes that L1 speakers learn a certain pattern of thinking for speaking when acquiring their first language. It is the acquisition of their second language, she says, which may enable speakers to learn a new pattern of thinking for speaking (as cited in Stam, 2007).

South Africa is a culturally diverse country and this has led bilingualism, and even multilingualism, to become more and more prevalent. Bilingual learning is therefore common in schools. However due to the differences in bilingualism and their situations, the link between dual language development and literacy attainment has been questioned. It is this issue which led the present study to establish the developmental trends and language patterns across monolingual and bilingual speakers.

Through studies with monolingual children, narrative development and literacy skills appear to be linked (Uccelli and Paez, 2007). The narrative plays a role in skills such as reading and writing, which underlie school achievement. A child's proficiency in the narrative may therefore predict their early literacy skills. Research on bilingual children's oral narrative development, however, is only at the early stages and is limited in Bantu bilinguals, especially children who are in the process of becoming bilingual. The present study, therefore, used the narrative as a tool for linguistic measurement.

To elicit the narratives, a well-documented methodology was used in which a wordless cartoon was shown to participants who were then asked to recall what they had watched in the video. The narratives of the participants were recorded on camera. Having a video file of the participants' responses allowed for later transcription and analysis of not only the linguistic input, but also for the assessment of gesture. The studies from which the data was elicited had been granted ethical clearance from the Wits Ethics Committee, as well as permission from the respective Departments of Education, schools and consent from the participants and their parents/guardians.

The sample was selected on the basis that the speakers had fulfilled the criteria of a participant for this study – that is they belonged to the specified language group and fit the required age group. The English language was considered for this study – since it is the most common medium of instruction, or LOLT, in schools – as well as isiZulu since this language has more HL speakers relative to other languages in South Africa. Therefore, the sample of participants consisted of two monolingual groups - L1 English speakers as well as L1 isiZulu speakers. The third group in this sample were the bilingual participants who had an L1 of isiZulu and an English L2. To assess development, the participants in this sample ranged from the ages of 5- 21. Since gesture is said to develop in parallel to speech, the contribution of gesture to overall language development was also considered.

The data files chosen from the archival data were chosen on the basis that all the participants had completed their narrative, the narratives had a fair amount of informational quality, and the videos had limited background noise and were visually clear.

In order to compare the oral narratives across the language and age groups, the oral texts were assessed and measured according to informational quality and the establishment of the narrative structure. Through this analysis, we were able to look at variables such as the length of the stories as well as the expression of certain speech acts in relation to the narrative genre, and thus gained insight into the development of the narrative schema. In further assessing the conceptualization of discourse and development of the narrative, we looked at the global underlying structures of the oral texts by measuring the macro-episodes recalled. This allowed insight into what episodes were being recalled the most or the least and hence contributed to the patterns found when assessing the informational quality.

Summary of Findings

Analysing the results, it was found, overall that there are differences and similarities amongst the three language groups of participants, in their performance of the narrative task. All three language groups performed the narrative tasks differently. As Berman and Slobin (1994) mentioned, there are three guiding themes which may be used when analysing narratives. Filtering, the first theme refers to how experiences are filtered either through choice or language in order to become verbalised events. In this instance, it appears to be language which filters the experience. Where English participants chose to give a summarised account of the events which occurred in the story, Zulu participants opted to contribute more detailed accounts in their recall. The results produced by the Zulu participants were in line with that

found by Kunene (2015; p. 14). The adult group made only slight use of summarising in their narrations. The differences in the accounts of the L1 English and isiZulu speakers may be attributed to rhetoric style. Slobin (1996) refers to rhetorical style as the typical characteristics of style in each language.

Taking the L2 English group into consideration, these speakers did not follow the performance of the L1 English group, their L2 target language. Instead, their performance was more similar to that of the L1 isiZulu group as their narratives got lengthier with age.

Looking back to how these results developed to form these trends, we discuss the differences in the age groups across the language groups. The 5-6 year olds in the L1 English group gave an event-by-event account which was quite detailed. Their narratives contained the highest amount of clauses produced on average across all language groups. This result is in stark contrast to what occurs in the adult group; hence we have noticed how their narratives evolved in terms of development. In the 9-10 year group, the changes in the way English speakers narrate their stories are clear as the number of clauses produced on average decreased. Regarding the cognitive processes of summarisation, Mani (2005) notes that understanding the narrative does not simply involve following a sequence of events, but also recognising a familiar pattern. For a speaker to summarise a text, oral or written, they need to be able to capture the “aboutness” of the story (Mani, 2005; p.5). Considering the theme of filtering, English speakers learnt how to select and order verbalised events, yet capture the “aboutness” or gist of the story, although it was being condensed.

For the L1 isiZulu speakers, the opposite is evident. In the 5-6 year group, the number of clauses produced on average was the lowest across all the language groups, yet the adult group produced the highest number of clauses on average. Again, in the 9-10 year age range a difference emerged as the amount of clauses in this range dramatically increased. The isiZulu speakers appeared to filter their stories less as they aimed to narrate a more detailed account.

The L2 English group produced a linear trend with regards to their development. With age, each group of participants contributed more clauses on average. There was a neat progression as the number of clauses in each age group increased by the same amount each time. The 5-6 years olds had therefore produced the fewest number of clauses, while the adult group produced the highest number within the group. Comparing these results to the other language groups, the bilingual participants produced more clauses than the isiZulu group but fewer

than the English. At the 9-10 year old level when significant changes were evident across all language groups, the bilingual participants had contributed more clauses than the English group but slightly fewer than the isiZulu group. This result was the same in the adult stage.

The possible reason that significant changes are evident in the 9-10 year old stage is due to the establishment of the narrative schema. According to Berman and Nir-sagiv (2007) the narrative genre is established at this age, although narrative performance in this age range is still not as developed as that of an adult's (Kunene Nicolas, 2015).

To assess the formation of the narrative schema, the study considered pragmatic acts which involve the categorisation of each clause as expressing a speech act. Apart from the obvious narrative clause, the different pragmatic acts expressed included comments, interpretations and explanations. Given the nature of this task, narrative retelling, it was predicted that the narrative speech act would be the most common act produced. This result is evident throughout the sample. Across all language groups and all age groups, the percentage of narrative acts was the highest from amongst the different pragmatic acts. If any other speech act was to dominate the oral text, then the discourse elicited would not have been a narration.

A clear mark of development and establishment of the narrative schema is evident in the percentages of the pragmatic acts produced across all the language groups. Across the 5-6 year age groups, the narrative act made up more than 95% of the oral recall; hence, there were rarely any other pragmatic acts produced. The percentage of narrative clauses exhibited decreased at the 9-10 year level, and this figure went down to range between 85-91% across the three groups of participants. This speech act remained the dominant or most common act in the narratives, although there was an increase in the overall production of other speech acts – most notably, interpretations. Lastly across the adult groups, the percentage of narrative speech acts dropped once again, in this age group between 71-80%. Comparing this to the 5-6 year group, it is quite a significant decrease. However the narrative clause was still the most commonly occurring expression of speech in this task. Along with this decrease, a corresponding increase was found across the other pragmatic acts. Participants appeared to interpret aspects of the story more than they made comments or explanations.

The ability to insert different pragmatic acts into a story whilst maintaining the narrative genre, seen by the number of narrative clauses contributed is a sign of development and thus establishment of this schema. To be able to make interpretations about things which are not present, or insert comments regarding feelings and intentions, represents, in itself, a

cognitively higher level of development. The development of higher levels of "structure-dependent" narrative organisation enables children to become more proficient at story-telling (Berman and Slobin, 1994; p. 84).

Looking at the recall of certain macro-episodes provides for the assessment of the way in which events were filtered and packaged, as well as how the story developed amongst participants from across the language groups. As mentioned, episodic organisation is indicative of a well-developed narrative structure as it shows how events were filtered and related in sequence as well as the storyline maintained. The "story schema approach" was used to categorise the macro-episodes and therefore further assisted episodic organisation. Through this approach we were able to see exactly which parts of the story were recalled the most or least and therefore gain insight into the cognitive functions of bilinguals in relation to monolinguals.

The most common macro-episodes recalled across all three language groups were A and B. According to the story schema approach these macro-episodes laid out the setting of the story and the initiating event, the episode which starts the sequence of events. An ending episode is also recalled; however this differs across the language group. In the L1 and L2 English language groups, macro-episode G was recalled the most and this is the last episode that was shown. In the L1 isiZulu group macro-episode F was the episode which participants usually ended on or recalled most toward the end of their narratives. Although L1 English speakers had summarised their narratives, all crucial episodes of the story were mentioned. On the other hand, the L1 isiZulu participants produced the highest number of macro-episodes and hence the most dense oral narratives. Interestingly, the L2 English group produced oral narratives in close range to that of the L1 English speakers, since the common episodes recalled by this language group was most similar to that of its target language group.

Considering the role of gesture in the oral narrations, it was found that the co-speech gesture does indeed contribute significantly to the linguistic input. Overall, the L1 isiZulu group produced the most gesture strokes on average, followed by the L2 English group and lastly the L1 English speakers. This finding fits in somewhat with that of Smithson et al., (2011) who mentioned that bilingual speakers use more manual gestures than monolinguals, mostly because gesture assists in relieving the cognitive load on working memory, as well as lexical retrieval. In the present study, L2 English speakers were shown to gesture more than L1 English speakers.

Additionally, the influence of language and culture on gestural production is evident as the L1 isiZulu speakers produced the most gestures across all the language groups – this is in accordance with Kunene Nicolas (2015) who showed, in both her contribution to Colletta (2014) and study (2015), how culture and language is a factor which influences gesture. IsiZulu speakers displayed an increasing developmental trajectory for gesture which was different from that of the French data. In the Zulu tradition, orature and folklore is important, the more visual the performance the better the story (Kunene Nicolas, 2015). Furthermore, in the study of Smithson et al., (2011), a gestural assessment of a sample of English monolinguals, Mandarin Chinese-English bilinguals and French-English bilinguals, found culture to be more of a determiner of gesture rate than bilingualism and working memory.

Due to the nature of the narrative task the appropriate and predicted function of the gestures produced, overall, were representational. This finding was also evident in Kunene Nicolas (2015; p. 14) and Ahmed (2015; p. 71) who also shared similar findings for the semantic relations of gesture. The semantic relation of this function to the linguistic input was largely supplementary, and this meant that the gestures supplemented the speech through its additional visual information. This was found across all the language groups.

The temporal relation of the gestures to the speech proves that we looked at co-speech gestures, since the gestures produced coincided with the production of the corresponding linguistic input. Temporal synchrony is thus a characteristic of co-speech gesture. Across the data, the large majority of the temporal relations between the gestures and speech were synchronous. Bergmann, Aksu and Kopp (2011) explain that when both modalities of language express the same idea, then the onset of the gesture will be closer to the lexical affiliate, as opposed to when the information is complementary. This close relation of co-speech gesture was noted across all age groups and across all language groups – including bilinguals; thus showing that the gestural acquisition of the L2 English speakers developed alongside speech. The gesture of the L2 participants was on par with their second language development.

Sometimes the temporal relations of the gesture were anticipatory to the speech. Bergmann et al. (2011; p. 2) mention that some researchers view this "gap," between the gesture and speech, as the result of difficulties in retrieving the lexical affiliates. Another explanation for this gap has been provided by De Ruiter (1998 as cited in Bergmann et al., 2011). He proposed that speech and gesture are planned together at an early stage but are processed

independently, and due to the complicated syntactic properties of speech, gestures make use of less production time. It was seldom that gestures were produced following its corresponding speech. Of these few instances in which this did occur, it was noted that the gestures which followed usually followed to elaborate or show the listener what the speaker meant, for example the explicit instance in which the participant stated, "down the leaf shape, *like this* > gesture followed" (5-6 years, L1 English male).

From the above, it is clear that that a characteristic of co-speech gesture is temporal synchrony and that these modalities of language develop in parallel. Although speech and gesture are systematically organised in relation to one another through the expression of the same ideas, they do not necessarily express the same aspects of it. This was also seen previously in the supplementary semantic relation of gesture to speech.

Regarding the forms of the gesture produced, the qualitative analysis allowed for a closer look at these forms in relation to macro-episode B. Quite an action-filled episode, this macro-episode elicited many motion events which participants demonstrated both gesturally and linguistically. As Ahmed (2015) mentions, L1 isiZulu speakers contributed both path and manner gestures and that English speakers only display manner in their gesturers when there was manner in their speech. These results were similar as English and isiZulu speakers demonstrated a combination of manner and path gestures in their narratives. Gestures corresponded to the speech; and so where manner or path was spoken of, if a gesture was produced in the utterance then it was made in relation to the corresponding speech. In considering Stam (2007, 2010), regarding these results, she makes mention of how previous studies also found that when Spanish speakers expressed path linguistically with a verb, their path gestures fell on the verb. When English speakers expressed path linguistically with a satellite then their gestures coincided with the satellite.

<u>Limitations</u>

A limitation of the present study is that it did not really consider the more linguistic, grammatical elements of language and discourse which could have provided more insight into the conceptualisation of constructs. Hence, it could have offered more detailed information on construction of motion events and hence the patterns of thinking for speaking. As Lucy (1996) mentioned, language and thought interact with each other at three different levels. The present study focussed on the functional or discursive level which looks at the

ways in which social communicative practices influences habitual behaviour in verbal interactions (as cited in Treffers-Daller, 2012). A future prospect could be to include analysis of language at the semiotic and structural levels as well, and this would provide for more insight into the general impact of language on cognition as well as how cognition is shaped by specific morpho-syntactic and lexical categories.

Another limitation regards gesture. The present study did not explicitly ask about the role of gesture in the research questions, however due to the multimodality of language it had to be considered. A more in-depth qualitative analysis of gesture could provide more information on the gestural forms and development cross-culturally.

The last limitation of this study lies in the sample of participants. Whilst extreme care was taken to select participants which fit the criteria of the study, the background of each participant is different. This is especially with regards to the bilingual participants who, although they acquired English sequentially, may have had different situations at home or at campus. This may also have ultimately affected their proficiency of their L2. This mostly concerns the Adult group that was taken from the University and which consists of a variety of students. Social economic status has also been found to affect the narrative and, therefore, literacy of individuals. The other two, younger age groups consisted of learners at the same schools in the same area. However, considering the linguistic landscape of South Africa and the large diversity within the country, this factor relates the study to a more real context.

Conclusion

In conclusion of this study, it was found that the production of the oral narrative differed across English and isiZulu speakers. This makes sense since these two languages are typologically different. Through the identification of the developmental trends across these two monolingual groups, the different ways in which the narrative developed in English and isiZulu speakers became evident. The narratives produced were fairly proficient, and for bilinguals, showed evidence of the development of the second language. Through Berman and Slobin's (1994) framework of filtering, packaging and development, we were able to see how events were related in the narrative.

Furthermore, it was found that the narratives of the bilingual speakers share some similarities and differences with the narratives of speakers in their L1 isiZulu and L2 English. The L2 English speakers appear to share the rhetorical style or overall narrative structure as isiZulu

speakers since their narratives also grew to contribute more information with age, unlike their target language group which decreased and therefore summarised information with age. This result could be an effect of language transfer since folktales and orature are important in African culture and to be able to tell a good story is part of this. On the other hand, we could also attribute this increase in information to the growing proficiency of the L2 English speakers. With their linguistic development they are now able to relate the story in a way that they perhaps could not when they were less proficient.

In terms of the macro-structure of the narratives and story schema, all participants across the three language groups were able to relate a setting of the story, initiating event and an ending. Comparing the bilingual group to the two monolingual groups, it was found that the L2 English speakers recalled more of the same macro-episodes as the L1 English participants. So, although their narratives were closer in expression or length of the isiZulu group, the way in which they filtered the content was closer to that of the English group. Hence there were no visible problems with recall and memory amongst the bilingual group.

The development of the narrative schema was evident as participants learned to adapt their narratives to their linguistic/cultural/rhetorical style, mostly at the 9-10 year old age range. The establishment of the narrative genre was also clear amongst the L2 English speakers thereby displaying that there was no lag in development or cognition in this group of bilinguals. They were able to perform the narrative just as well as monolingual children.

The use of co-speech gesture was found across all participants, more so amongst the Zulu participants. However similarly to what other research has found, bilinguals use more gesture than monolinguals as the L2 English group gestured more than the L1 English group. Again this could also be an influence of the L1 and culture which reflects on the amount and type of gestures produced.

Therefore it may be deduced that L2 English speakers do develop a different pattern of thinking for speaking (as do English and isiZulu speakers), since their language and narrative trends were not the same as that of their L1 or their L2. Stam (2010) suggested that if the patterns of thinking for speaking in a bilingual speaker's L1, differs from the patterns of thinking in their L2, then these bilingual speakers could develop a completely new pattern of thinking for speaking.

These results therefore hold some important information with regards to education and literacy. Firstly, not all learners may perceive a task in the same way; language may influence their thinking for speaking or framework of how to attend to the task. As part of the English curriculum in schools, children are taught to summarise. A section in the English Language paper of the Matric exam involves summarisation, and for learners who may come from a Zulu background or African culture in which detail is important, the task of summarising and capturing the gist of a text may be difficult. Hence, findings from this study may also inform the linguistic modification of teaching materials. The South African school curriculum needs to be created with the diversity of language and culture of South Africa in mind, albeit English is often chosen as the medium of instruction in the classroom. Language background is an important factor.

Upon the examination of the texts, the 5-6 year old age group of the L2 English speakers have shown how proficiency may cause a bilingual learner to *lag* behind. Perhaps the word 'lag' is not the correct word, since cognitively the participants appear to be on the same level as their monolingual peers; it is just the lack of proficiency which does not place an L2 English speaker on par with an L1 English speaker. This factor informs the choice of Language of Learning and Teaching in schools; if the L2 is chosen as the LoLT in schools then perhaps the L1 needs to be used as a bootstrap further until the age of 9-10. This also reflects on Krashen's theory of second language acquisition which allows us to see how the 'silent period' is important for SLA especially in this age group.

The role of gesture has provided insight into conceptualisation as it allows one to *see* what information the listener has not expressed in speech. Co-speech gesture can have identical meanings or expresses different aspects of the same idea. Gesture is a useful tool for learning and could therefore play a larger role in the classroom. Through this modality, we are also offered more insight and understanding of language acquisition and development.

The present study has shed some light on the influence of language and culture and how this relates to our thinking for speaking. We were able to look into the pragmatic competence and skill of South African speakers. Language and developmental trends were identified across the three groups of participants, therefore establishing the trends for typically developing English and isiZulu populations. This may be able to contribute to a database of normative measures against which atypical populations may be compared. It may also contribute to the

little existing information on the development of Bantu languages and studies on bilingual performances of the narrative – more specifically, amongst South African speakers.

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APPENDICES

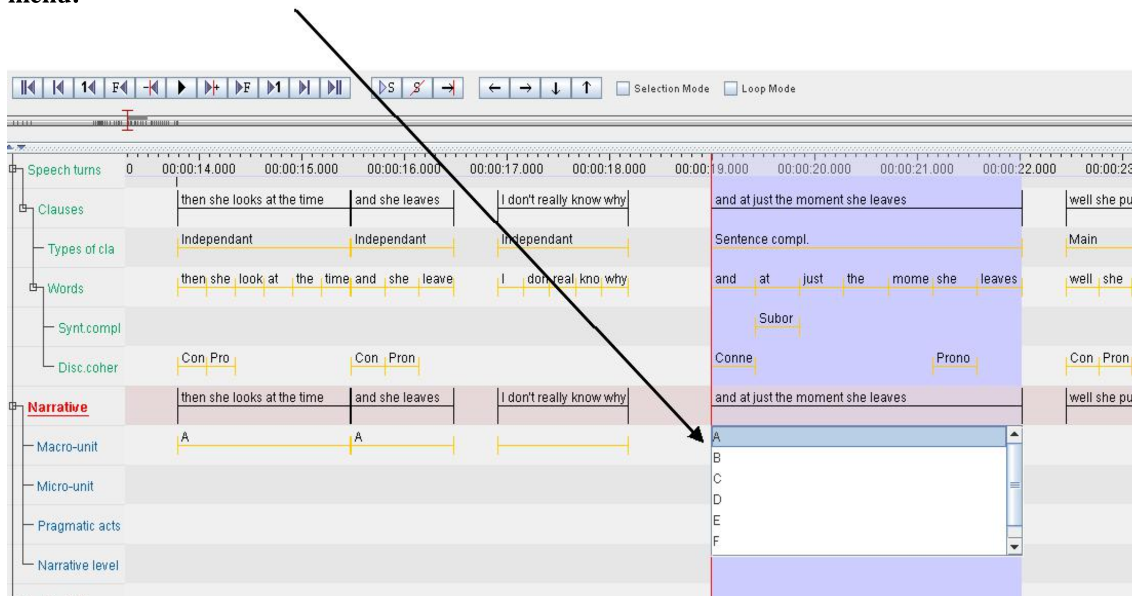
Appendix A: Extracts from the coding manual

ANR Multimodality Research Project

ANR-05-BLANC-0178-01 et -02

Stage 2: < Macro-unit > categorization of the clauses in macro-episodes

Double click on the place where you wish to annotate, then click on the value chosen in the drop-down menu:



List of macro-episodes:

Episode code	Episode description
A	In the nest
B	From nest to bed
C	The hatching
D	"Imprinting"
E	Damage
F	How to calm the baby bird
G	Back to the nest

.

Note 1: Several clauses can be assigned to a macro-episode, and conversely, it can happen that a macro-episode is not the subject of any clause.

Note 2: when the words of the child do not correspond to any identified macro-episode: the child evokes events out of the history (e.g. hereafter), explains, comments on or interprets (cf. stage 4), one leaves the annotation empty while clicking outside the drop-down menu.

Ex:
"I don't really know why"

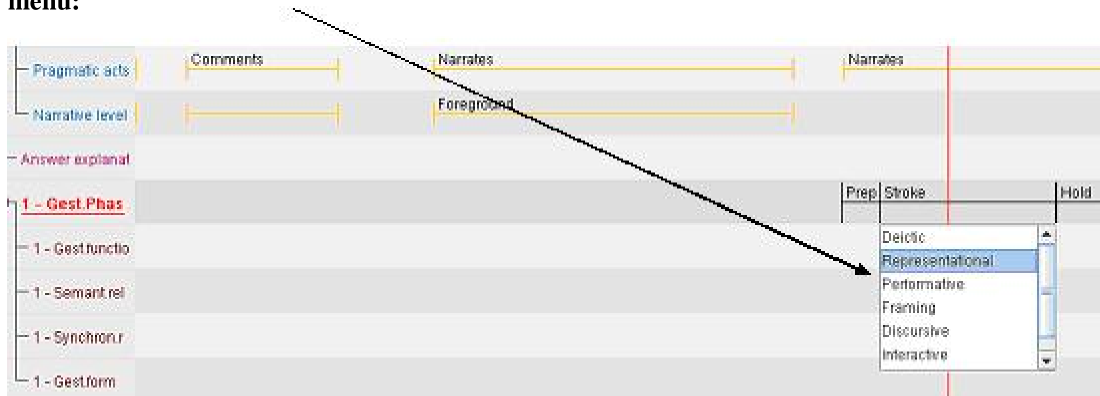
(See above annotation illustration)

ANR Multimodality Research Project

ANR-05-BLANC-0178-01 et -02

Stage 2 : < Gest.function> attributing function to gesture

Double click on the place where you wish to annotate, then click on the value chosen in the drop-down menu:



Select:

< **Deictic** > = hand or head gesture pointing to an object present in the communication setting, or to the interlocutor, or to oneself or a part of the body, or indicating the direction in which the referent is found from the actual coordinates of the physical setting.

Ex:

- The locutor points to himself while saying « this is what I understood »

****

Note: not all pointing gestures have a deictic function. A deictic pointing gesture strictly implies the presence of the referent or its location from the actual physical setting, and these gestures are rare in a corpus of spoken narratives. When the narrator points while speaking of a character, an object or an internal localisation of the story, the gesture does not have a deictic function. Its function is either a representational one, or a discourse one (an anaphoric function, as in the case of gesture anaphora). See < **Representational** > and < **Discursive** > below. Ex :

- The speaker points ahead of himself and upwards, while saying: "Jerry climbs on top of the tree" (abstract pointing)

******

< **Representational** > = hand or facial gesture, associated or not to other parts of the body, which represents an object or a property of this object, a place, a trajectory, an action, a character or an attitude, or which symbolises, by metaphor or metonymy, an abstract idea.

Examples of gestures representing objects, properties, places, trajectories, actions, characters from the concrete world:

- 2 hands drawing an oval form to represent the egg
- 2 hands drawing the form of a container to represent the nest
- Rapid movement of the hand or index high then low to represent the fall of the egg (abstract pointing)
- Hand or head movement, in the direction to the right, to the left, high or below to represent the trajectory of an object or a character (abstract pointing)
- Rapid or repeated hand movements in a picking form to represent the woodpecker attacking an object
- Arms and hands mimicking carrying an object to represent Jerry when he takes the bird to the nest
- Rapid sagging movement of the body to represent Jerry falling down
- Movement of the head + gaze above to represent Jerry searching for the bird's nest

…

Examples of gestures symbolising abstract ideas:

- Hand or head gesture pointing to a spot that represents a character (the bird, Jerry) or an object (the nest, furniture) (abstract pointing)
- Movement of the hand towards the left to symbolise « before », the past or the perfect, or towards the right to symbolise « After », the future or the imperfect.
- Movement of both hands flat, palms towards the top, to express the idea of wholeness.
- Head gesture of negation to express ignorance or the incapacity of the character
- Gesture of the hand and shoulders to express helplessness, the inability of a character to do something

...

< **Performative** > = gesture which allows the gestural realisation of a non-assertive speech act (response, question, request for confirmation, etc.), or which reinforces or modifies the illocutionary value of a non-assertive speech act.

Example of gestures which accomplish a speech act:

- Nodding head for an affirmative response
- Hand or head gesture for a negative response
- Shrugging, associated or not with a doubtful mimic, to express ignorance as an answer to a question

…

Examples of gestures reinforcing the function of the act expressed verbally:

- Vigorous head nodding accompanying an affirmative response
- Vigorous head shaking gestures accompanying a negative response

…

Examples of gestures modifying the function of the act expressed verbally:

- When the gesture or the mimic contradicts speech : not seen in Grenoble corpus

…

< **Framing** > = gesture occurring during narration (during the telling of an event, or commenting an aspect of the story, or commenting the narration itself) and which expresses an emotional or mental state of the speaker.

Ex:

- Face showing amusement to express the comical side of a situation
- Shrugging or facial expression of doubt to express incertitude of what is being asserted
- Shrugging or facial expression to express the obviousness of what is being asserted
- Using « finger inverted commas » to express distance in relation to terms used
- Frowning and staring above to express reflection while trying to recall the story or the next event

…

< **Discursive** > = gestures generally brief which aid in structuring speech and discourse by the accentuation or highlighting of certain linguistic units, or which mark discourse cohesion by linking clauses or discourse units with the help of anaphoric gestures or gestures accompanying connectives.

Examples of accentuating or highlighting gestures:

- Rhythmic movements (beats) of the head or hands accompanying the accentuation of certain words or syllables
- Raising of eyebrows accompanying the accentuation of certain words or syllables

Examples of segmentation or demarcation gestures:

- Rapid movement of the hand sketching the gesture of hunting/ chasing something to signify changing an episode, when coming back to the narrative after a commentary or vice versa

Examples of gestures of discourse cohesion

- Hand sketching the form of a content to symbolise the topic or the title of the story
- Hand sketching the form of a content to symbolise an episode of a story
- Hand or head abstract pointing gesture with an anaphoric function : pointing to a spot in the frontal space to refer to a character or an object previously referred and assigned to this spot
- Representational gesture with an anaphoric function (gesture identical or similar to another gesture produced before and that tracks the same referent in the story)
- Brief hand gesture or beat accompanying a connective

…

< **Interactive** > = gesture accompanied by gaze towards the interlocutor to express that the speaker requires or verifies his attention, or shows that he has reached the end of his speech turn or his narrative, or towards the speaker to show his own attention.

Ex:

- Rapid hand or head movement, including a gaze towards the interlocutor in quest for his attention
- Nodding head while interlocutor speaks
- Orienting the head and gaze towards the interlocutor at the end of speech turn or narrative.

…

< **Word Searching >** = Hand gesture or facial expression which indicates that the speaker is searching for a word or expression.

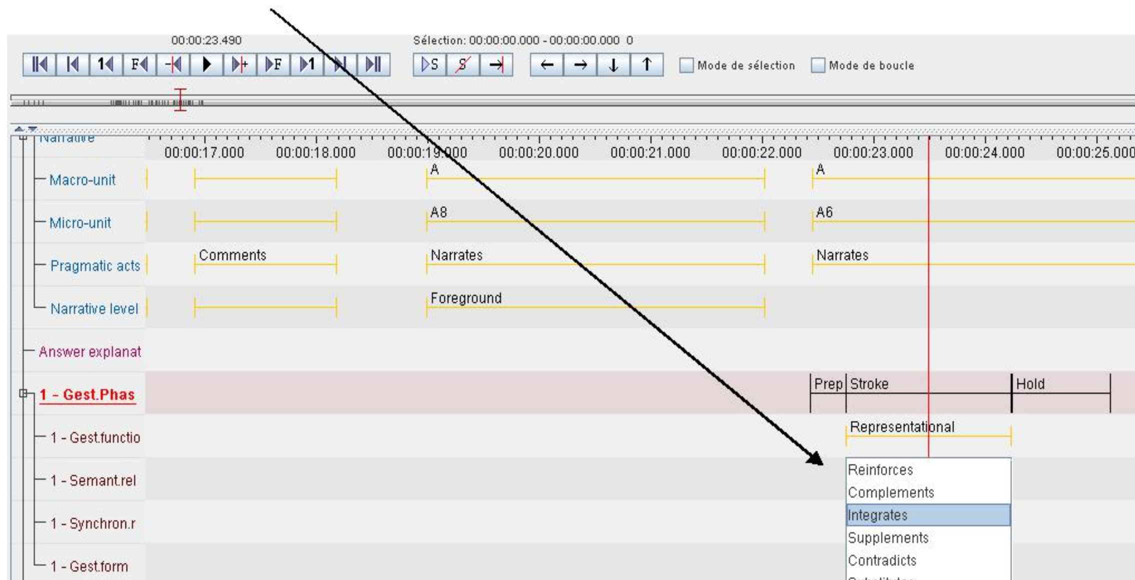
Ex:

- Frowning and staring above while searching words
- tapping fingers, with or without a mimic of reflection, while searching words

Note: If the gesture appears difficult to categorise, if it appears to fill two or many functions at the same time, we can annotate it as
<Mixed> by leaving the annotation empty. But it is preferable to select one function: the function that appears dominant.

Stage 3 : < Semant.relation> definition of the relation of the gesture to corresponding speech

Double click on the place where you wish to annotate, then click on the value chosen in the drop-down menu:



Select:

< **Reinforces >** = the information brought by the gesture is identical to the linguistic information it is in relation with.

Ex:
Nodding head accompanied by a « yes » of an affirmative
Shrugging accompanied by a « I don't know » or a response full of doubt A deictic pointing gesture towards an object explicitly named

Note: this annotation does not concern the < representational > gestures, as the information brought by the gesture always says more than the linguistic information.

Complements > = the information provided by the gesture brings a necessary complement to the incomplete linguistic information provided by the verbal message: the gesture disambiguates the message.

Ex:
Pointing gesture accompanying a location adverb like « here », « there »
Pointing gesture aiming at identifying an object not explicitly named

Note: this annotation only concerns the < deictic > gestures.

< **Integrates** > = the information provided by the gesture adds precision to the encoded linguistic information: mode of displacement or direction of trajectory of the action referred to, shape and dimension of the object referred to, etc.

Ex:

« <u>she leaves</u> »
******** : shifting of the left hand towards the left side, indicating the direction of the displacement.

« <u>the egg moves</u> »
************ : oscillation of the hand representing the vibrations of the egg

« It makes the <u>mouse move</u> »
****

Note: this annotation only concerns the < representational > gestures.

< **Supplements** > = the information brought by the gesture adds a new information not coded in the linguistic content.

Examples of <u>representational gestures providing a supplementary signification</u>:

- « he <u>tries to come out</u> »
************** : vertical agitation of the hand to represent the baby bird moving inside the egg

- « <u>the egg jumps</u> »

****

…

Examples of <u>performative gestures providing a supplementary meaning:</u>

- Vigorous nodding accompanying an affirmative
- Vigorous shaking of head accompanying a negative response

…

Examples of <u>framing gestures providing a supplementary meaning</u>:

- Face showing amusement signs to express a comical side of the narrated event

- Face showing disgust to express a displeasing action
- Shrugging or showing a mimic of doubt to express incertitude of what has been asserted

…

Note: all < framing > gestures are annotated with < supplements >, unless if they contradict the verbal message (cf. following annotation)

< **Contradicts** > = the information provided by the gestures is not only different from the linguistic information in which it is linked but contradicts it.

Ex:

When the gesture or mimic contradicts speech: not seen in Grenoble corpus

Note: this annotation normally concerns only the < **framing** > and < **performative** > gestures. However, contradiction may also occur in gesture-speech mismatches that include a < **representational** > gesture, e.g.: the speaker mentions three objects and produces a gesture which represents number « two ».

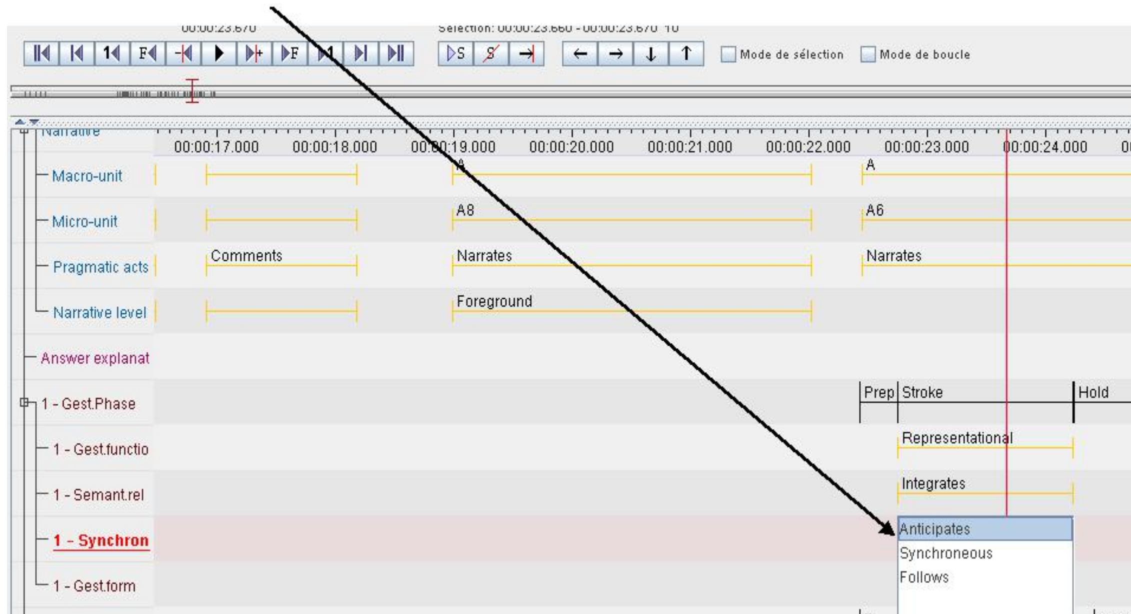
< **Substitutes** > = the information provided by the gesture replaces linguistic information.

Ex: Nodding in affirmative response

Shrugging and mimic showing ignorance as a response expressing doubt
Pointing gesture aimed to identify an object in the absence of speech

Stage 4 : < Synchron.relation > indication of the temporal placement of the gesture in relation to the corresponding speech

Double click on the place where you wish to annotate, then click on the value chosen in the drop-down menu:



Select :

< **Synchroneous** > = The stroke begins at the same time as the corresponding speech segment, whether it is a syllable, a word (noun, verb, adjective, connective….) or a group of words (the notation **** corresponds to a gesture hold).

Ex :
She leaves
****

< **Anticipates** > = The stroke begins before the corresponding speech segment : the speaker starts his gesture while delivering a linguistic information prior to the one corresponding to it.

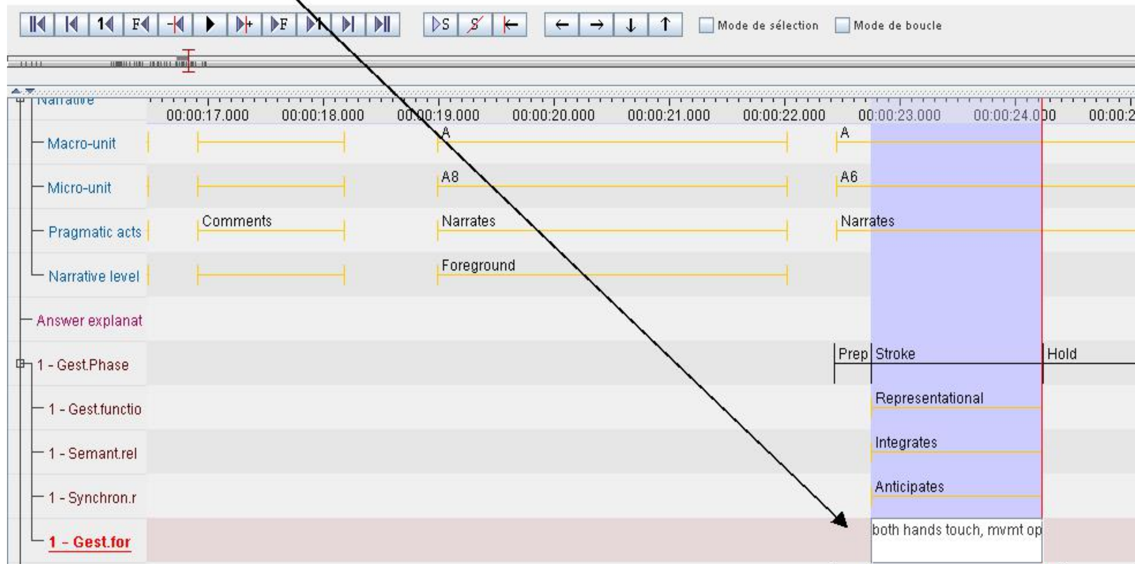
Ex :
Errrrr _ – this this made it jump everywhere
****

< **Follows** > = The stroke begins after the corresponding speech segment: the speaker begins his gesture after having finished speaking, or while delivering a linguistic information posterior to the one corresponding to it.

Ex :
It falls – it goes on top of a spiderweb

Stage 5 : < Gest.form >

Double click on the place where you wish to annotate, then type the information you wish to input in the block:



We give a brief description of the annotated movement sticking to its most salient points:
- body part of movement: head, chest, shoulders, 2 hands, left hand, right hand, index, eyebrows, mouth….
- if there is a trajectory: direction of the movement (towards the top, bottom, left, right, frontal, behind…..)

- if there is a hand shape: the form of the hand (flat, cutting, closed in a punch-like form, curved, palm up, palm down, fingers pinched, fingers in a circle….)

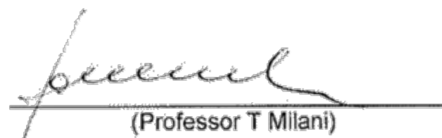
- the movement itself: head nod, beat, circular gesture, rapid or not, repeated or not…

APPENDIX B: Archival Data – Ethics Clearance and Consent

Research Office

HUMAN RESEARCH ETHICS COMMITTEE (NON-MEDICAL)
R14/49 Ahmed

CLEARANCE CERTIFICATE	**PROTOCOL NUMBER H13/08/29**
PROJECT TITLE	The Development of Discourse in Second Language (L2) Acquisition from a multimodal Perspective
INVESTIGATOR(S)	Ms S Ahmed
SCHOOL/DEPARTMENT	Language, Literature and Media
DATE CONSIDERED	16 August 2013
DECISION OF THE COMMITTEE	Approved Unconditionally
EXPIRY DATE	27/05/2016

DATE 28/05/2014 **CHAIRPERSON** 
(Professor T Milani)

cc: Supervisor : Dr R Kunene Nicolas

DECLARATION OF INVESTIGATOR(S)

To be completed in duplicate and **ONE COPY** returned to the Secretary at Room 10000, 10th Floor, Senate House, University.

I/We fully understand the conditions under which I am/we are authorized to carry out the abovementioned research and I/we guarantee to ensure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I/we undertake to resubmit the protocol to the Committee. **I agree to completion of a yearly progress report.**

______________________ Signature

____/____/____ Date

PLEASE QUOTE THE PROTOCOL NUMBER ON ALL ENQUIRIES

University of the Witwatersrand

School of Language, Literature and Media

Dear School Principle

I am currently conducting research in how atypical and typical language populations compare in their use of language and gesture. There is currently little information regarding how populations with mental handicaps differ to typical populations in terms of language use and this study seeks to provide some information to that gap in research.

I would like to ask permission to collect speech samples from children attending your school. The child will be shown a wordless cartoon, upon which they will tell me a story of what they witnessed in the cartoon. Their responses will be filmed. In particular, I will require children from the following age groups:

1. 10 girls and 10 boys between the ages of 9 and 12 years old

2.10 girls and 10 boys between the ages of 13 and 17 years old

The activity should take no more than a maximum of ten minutes per child. I will be requiring a quiet and well-lit room with a power supply and two chairs for the activity. Participation in the study is voluntary, and participants are able to withdraw at any stage without prejudice. I shall require consent from the parent/guardian in order for the child to participate and to obtain supplementary information about the child. Should the parents grant permission, but the child be unwilling to participate, the wishes of the child will be adhered to.

The identity of the child and your school will be anonymous and will be protected.

There are no foreseeable risks as the activity in which the child will participate is no different communication in daily life. Likewise, there are no immediate benefits towards participation in the study.

I feel that there is still a lot to be learnt in how various populations use language. I hope that my study will lead to future research in this field, which will ultimately have beneficial

implications on education. Your participation will make an invaluable contribution towards this research and will be greatly appreciated.

Thank you for your time and consideration.

Please feel free to contact me or my supervisor should you have any questions or concerns.

______________________ ______________________

Natasha Coertze

(Student researcher)

Zatash.c@gmail.com

072 831 7895

Dr.Ramona Kunene- Nicolas

(Supervisor)

Ramona.KuneneNicolas@wits.ac.za

011 717 4262

APPENDIX C – Ethics Committee Waiver Letter

UNIVERSITY OF THE
WITWATERSRAND,
JOHANNESBURG

HUMAN RESEARCH ETHICS COMMITTEE (NON-MEDICAL)
Registration number: REC-101114-044

02 October 2018

Re: Ms. Raheema Amiroodeen (535220)

To whom it may concern,

Ms. Amiroodeen (535220) is currently registered as a Masters student at the School of Literature, Language and Media Studies, University of the Witwatersrand, Johannesburg. This letter is to confirm that, at the time of writing, Ms. Amiroodeen does not need ethical clearance for her Masters study entitled '*The Bilingual Story: An investigation into the patterns of thinking for speaking of L1 and L2 speakers of English and isiZulu*'. This decision has been reached based upon a description of the project supplied by Ms. Amiroodeen to the University Human Research Ethics Committee (Non-Medical), which has been evaluated by the Committee Chair. If, however, Ms. Amiroodeen changes the methods of data collection and analysis for this study, this decision may no longer be valid. If such changes take place, this should be communicated to the University Human Research Ethics Committee (Non-Medical) as soon as possible.

Please feel free to contact me should you require any further information.

Thank you.

Yours sincerely,
S Schoeman

Shaun Schoeman (Senior Administrative Officer)

Solomon Mahlangu House, 10th Floor, Room 10004, Jorissen Street, Braamfontein, Johannesburg
Private Bag 3, Wits 2050
T + 27(0)11 717 1408 | **E** Shaun.Schoeman@wits.ac.za | hrec-medical.researchoffice@wits.ac.za
www.wits.ac.za/research/about-our-research/ethics-and-research-integrity/

APPENDIX D - Extracts from the Archival Data

Below are extracts of the archival data, one file of a participant in each language and each age group:

English

5-6 years, Male

Begin Time	End Time	Clauses
00:00:02.970	00:00:04.810	there was a bird knitting
00:00:06.010	00:00:08.790	then the egg hatched
00:00:09.150	00:00:13.550	xxx put the egg in a blanket
00:00:14.790	00:00:17.610	that's what the other bird was knitting
00:00:18.550	00:00:21.110	and then it bounced
00:00:21.190	00:00:23.590	because there was a bird growing in it
00:00:23.610	00:00:25.230	and then it fell down in a tree
00:00:26.160	00:00:28.350	and then into a spider web
00:00:28.350	00:00:32.250	it flew through the spider web
00:00:32.270	00:00:33.160	and broke it
00:00:33.650	00:00:35.460	and then into a flower
00:00:37.985	00:00:39.115	the flower fell down
00:00:39.120	00:00:40.340	and then it went up
00:00:40.860	00:00:42.490	down the leaf shape like this
00:00:43.650	00:00:48.900	and then into jerry's doorway
00:00:51.170	00:00:52.230	then into his bed
00:00:52.250	00:00:54.220	then he rolled over onto the egg
00:00:54.220	00:00:56.650	and then it bounced him up
00:00:56.660	00:00:58.070	and then he looked at it
00:00:58.070	00:01:00.290	and he saw that it was a egg
00:01:00.315	00:01:01.845	and he touched it
00:01:02.170	00:01:06.960	then it was a baby woodpecker that hatched
00:01:07.050	00:01:10.800	and then it took all his draw down
00:01:10.800	00:01:13.830	then his light down
00:01:14.590	00:01:16.715	then through the wall
00:01:16.725	00:01:20.210	and then his green chair down
00:01:22.320	00:01:24.590	some of the cracker
00:01:27.140	00:01:31.135	and then jerry got too annoyed
00:01:31.210	00:01:33.930	that he just took him back to his real home
00:01:35.400	00:01:39.810	but that woodpecker thought that jerry was his mom

9-10 years, Female

Begin Time	End Time	Clauses
00:00:00.790	00:00:02.810	there was a mommy bird
00:00:02.910	00:00:06.050	and she was busy knitting pants or something
00:00:06.435	00:00:09.395	and then she had a baby egg
00:00:09.400	00:00:10.880	that she was sitting on
00:00:11.365	00:00:14.245	and then she had to go get something

00:00:14.250	00:00:15.840	so she flew away
00:00:15.850	00:00:19.220	and then the baby egg rolled away
00:00:19.220	00:00:23.940	and it ended up in a mouse house
00:00:27.030	00:00:28.570	and then the egg hatched
00:00:30.200	00:00:35.900	and then it thought that the mom was it's, the mouse was it's mom
00:00:36.430	00:00:39.705	and then he got irritated
00:00:39.705	00:00:42.285	because he kept on pecking at everything
00:00:42.890	00:00:44.200	so he went back
00:00:44.220	00:00:46.130	and he put him back in the nest

Adult, Male

Begin Time	End Time	Clauses
00:00:02.750	00:00:04.610	a woodpecker lays an egg
00:00:04.980	00:00:06.670	the egg falls out of the nest
00:00:07.140	00:00:10.800	and through a series of fortunate events
00:00:10.800	00:00:13.770	ends up going into a house of jerry
00:00:13.770	00:00:14.830	he's a mouse
00:00:15.145	00:00:16.810	and it hatches
00:00:16.810	00:00:18.740	as it reaches jerry
00:00:18.880	00:00:21.040	at which point it systematically destroys everything
00:00:21.040	00:00:23.530	made out of wood inside his house
00:00:24.299	00:00:26.124	he tries to help it
00:00:26.215	00:00:27.125	by giving it food
00:00:27.125	00:00:29.424	at which point it eats his arm
00:00:30.595	00:00:33.376	he then pulls the woodpecker off
00:00:34.019	00:00:35.421	and tries to take a seat
00:00:35.776	00:00:37.930	the woodpecker destroys his seat
00:00:38.320	00:00:40.138	at which point he's fed up with the woodpecker
00:00:40.142	00:00:41.168	and carries him outside
00:00:41.168	00:00:42.606	and returns him to his nest

isiZulu

<u>5-6 years, Female</u>

Begin Time	End Time	Clauses / *En translation*
00:00:10.170	00:00:11.540	beyihleli *it was sitting*
00:00:12.050	00:00:14.970	angithi yafika igundwane *isnt it that the mouse arrived*
00:00:15.320	00:00:19.118	yase ifika ke kuleyento epinki *it then arrived to that pink thing*
00:00:19.118	00:00:20.900	yase igxumela into epink *it bounced onto the pink thing*
00:00:21.125	00:00:22.480	yase ihamba *and then it left*
00:00:22.550	00:00:27.040	yasihamba kulelo gundwane *it then went to that mouse*
00:00:27.040	00:00:28.520	yase liyivusa *and then it woke it*
00:00:28.520	00:00:29.850	yase ilibuka *and then it looked at it*
00:00:29.850	00:00:32.640	lase la jumpa jumpa *and then it jumped and jumped*
00:00:32.640	00:00:36.168	kwavuleka ngaphansi *it opened underneath*
00:00:36.332	00:00:38.140	lase idonsa legundane *and then it pulled the mouse*
00:00:39.181	00:00:44.160	bese lapho yas'ifika *and then it arrived*
00:00:44.160	00:00:46.485	yathi leya nyoni mama *that bird said mama*
00:00:46.818	00:00:50.590	yas'ifika lapho ya *when it arrived it*
00:00:51.233	00:00:57.150	andene yase yahamba yaya emadraweni *and then it left and went to the drawers*
00:00:57.909	00:00:59.680	yahamba lapho *it left there*
00:00:59.950	00:01:03.688	bese lafika lelagundwane *and then the mouse arrived*
00:01:03.974	00:01:04.740	lahamba *it left*
00:01:05.059	00:01:07.020	la baleka laya kunyoni *it went running away to the bird*
00:01:07.150	00:01:11.558	yase iyabaleka inyoni *then the bird ran away*
00:01:11.857	00:01:15.078	yas'ihamba yaya ku *it left and went to*
00:01:15.225	00:01:18.584	mayisuka lapho yahamba *then from there it left*
00:01:19.018	00:01:24.410	bese lapho ke lelo gundwane ingane yakhona *and then from there that mouse its child*
00:01:24.715	00:01:26.210	bese ihamba iya e dongweni *it went to the bedroom*
00:01:26.210	00:01:27.467	yahamba khona *it walked in there*
00:01:27.714	00:01:28.545	yas'ibaleka

		and then it ran away
00:01:28.863	00:01:31.311	yase ihamba ngapha igundane
		and then the mouse went this way
00:01:31.400	00:01:37.110	yase iphuma inyoni
		and then the bird came out
00:01:37.460	00:01:43.830	yase igundwane la thatha isinkwa
		the mouse then took the bread
00:01:44.200	00:01:47.170	lase ladla
		and then it ate
00:01:47.250	00:01:53.050	laqeda ukudla bese maliqeda ukudla
		and then it finished eating and after that
00:01:53.050	00:01:57.040	bahamba nalo bayomlanda
		they left with him to get him
00:01:57.490	00:01:58.870	bayom'lalisa
		they put him to sleep

<u>9-10 years, Male</u>

Begin Time	End Time	Clauses En Translation
00:00:00.030	00:00:03.390	ngibone inyoni esidlekeni
		i saw a bird on the nest
00:00:03.600	00:00:04.540	ithunga it was knitting
00:00:04.540	00:00:05.670	kwasuke lapho ukuthunga
		after that knitting
00:00:05.670	00:00:06.640	yabeka iqanda
		it put down the egg
00:00:06.640	00:00:10.110	baligoqa ngendwango
		they covered it with a cloth
00:00:10.110	00:00:11.355	yahamba inyoni
		the bird left
00:00:11.355	00:00:13.880	iqanda labelokhu libampa
		the egg went on to bounce
00:00:13.880	00:00:15.085	lasuka lapho larounda
		it went around
00:00:15.085	00:00:16.120	lehla
		it fell
00:00:16.120	00:00:18.370	langena endlini kaspiderman
		it entered spiderman's house
00:00:18.370	00:00:20.652	yasuka lapho yaqubula embalini
		it then went up to the flower
00:00:20.652	00:00:21.269	yangena embalini
		it entered the flower
00:00:21.269	00:00:22.277	yasuka embalini
		it left the flower
00:00:22.277	00:00:23.018	yachitheka
		it spilled over
00:00:23.018	00:00:24.450	yahamba yayongena endlini
		it went to enter the house
00:00:24.450	00:00:26.460	yangena endlini yonogwaja
		it entered the rabbit's house
00:00:26.620	00:00:27.593	yangena embedeni
		it got in the bed
00:00:27.593	00:00:28.735	unogwaja elokhu ebampa
		whilst the rabbit was busy bouncing
00:00:28.735	00:00:30.670	wagibela phezu kwonogwaja
		he climbed ontop of the rabbit
00:00:31.150	00:00:34.905	kwasukalapho walibuka
		from there he looked at it

00:00:35.240	00:00:36.387	lalokhu libaleka it kept running
00:00:36.387	00:00:38.140	selibidlikile ngenzansi it had fallen into pieces underneath
00:00:38.160	00:00:39.050	waliqubula he lifted it up
00:00:39.050	00:00:40.510	aseliqubula kanje while lifting it up like this
00:00:40.844	00:00:43.820	lalokhu lihamba lilokhu lihamba it kept going and going
00:00:44.620	00:00:48.370	lasuka lapho lahamba layobhoboza ikhabethe from there it went to bore the cupboard
00:00:48.370	00:00:49.605	wathi uyalibamba he tried to grab it
00:00:49.605	00:00:51.384	lagijima it ran
00:00:51.384	00:00:57.095	layobulala udonga lapho it went to destroy the wall there
00:00:57.095	00:00:58.680	wasuke walibamba he then grabbed it
00:00:58.680	00:01:00.100	wacinga ukudla he thought of food
00:01:00.100	00:01:01.600	wathatha isinkwa wasinika he gave it the bread
00:01:01.600	00:01:03.513	waphinda wasinika ingalo he then gave it the hand
00:01:03.513	00:01:04.915	yambamba ingalo it grabbed his hand
00:01:04.915	00:01:06.280	wathi wayidonsa he tried to pull it
00:01:06.280	00:01:07.096	wawa he fell
00:01:07.531	00:01:10.340	wasethi uyahlala he tried to sit
00:01:10.340	00:01:11.442	wafuna ukuhlala esihlalweni he wanted to sit on the chair
00:01:11.831	00:01:13.175	yayidonsa inyoni the bird pulled it
00:01:13.175	00:01:14.620	wasewa he then fell
00:01:15.100	00:01:16.472	wase eqeda ukuwa after falling
00:01:16.472	00:01:18.084	yase eyiqubula eyithi he lifted it up like
00:01:18.084	00:01:20.342	eseyisa endlini yayo taking it to its house
00:01:20.730	00:01:23.063	mase eqeda ukuyisa endlini yakhe after taking it to its house
00:01:24.350	00:01:26.270	yasuka yaphela it ended

Adult, Female

Begin Time	End Time	Clauses
00:00:00.080	00:00:02.270	yase igoqa kahle iqanda yalo and then it tucked its egg properly

00:00:02.270 00:00:03.660 khona lapho kusho kuthi abeya khona
it means there was somewhere she was going to
00:00:03.660 00:00:05.020 ngoba ibuke isikhathi ewashini
because she looked at the time on the watch
00:00:05.130 00:00:06.410 yase yagoca kahle iqanda it then tucked in the egg properly
00:00:06.410 00:00:07.530 yalishiya njalo edlekeni it left it like that in the nest
00:00:07.530 00:00:08.050 yahamba it left
00:00:08.320 00:00:09.830 iqanda laphuma edlekeni the egg got out of the nest
00:00:09.940 00:00:11.340 lehla esihlahleni it came down the tree
00:00:11.340 00:00:13.720 langena endlini ye ngundwane and entered the mouses's house
00:00:14.000 00:00:16.210 igundwane beyi lalele the mouse was sleeping
00:00:16.210 00:00:18.110 iqanda langena la bedi lele khona the egg entered the bed where he was sleeping
00:00:18.110 00:00:19.440 kusam bhedana wakhona it is like a bed
00:00:19.440 00:00:20.420 nakhona ngathi uyidleke even it appears to be a nest
00:00:20.850 00:00:24.190 lase ya buka leli qanda ya xakeka the mouse then looked at the egg and was confused
00:00:24.190 00:00:28.460 Lase la phuma itjwele eqandeni and then the chick came out from the egg
00:00:29.530 00:00:30.620 maliphuma lelintjwele when the chick came out
00:00:30.620 00:00:33.790 lihambe liyo kudla itafula elenziwe ngo khuni it went to eat the table made out of wood
00:00:34.000 00:00:35.270 lidle lelo tafula it ate that table
00:00:36.110 00:00:37.420 lo lo khu lilandelayo lelo ngundwane
all the time the mouse was following it
00:00:37.420 00:00:39.240 ukuthi lenzani lelintjwele lelincane
to see what the small chick was doing
00:00:39.240 00:00:40.980 lihamba lidla yonkhe into leno khuni
as it ate everything made of wood
00:00:41.040 00:00:44.760 ithatha okusa sinkwa okuqinile kodwa
it took something like hard bread
00:00:44.760 00:00:47.380 wayinika inyoni lencane and gave it to the small bird
00:00:47.710 00:00:49.430 yayidla kancane nekusheshisa it was eating a little bit fast
00:00:49.560 00:00:53.040 and then yase ya hamba and then it went
00:00:53.040 00:00:56.400 wabona ukuthi kusho ukuthi idukile lenyoni lencane he realised that the little bird was lost
00:00:56.400 00:00:59.370 wahamba wayihambisa edlekeni sayo he went and took it to its nest
00:00:59.370 00:01:00.860 lapho icabanga ukuthi iphuma khona
where it thought it came from

L2 English

5-6 years, Female

Begin Time	End Time	Clauses
00:00:08.700	00:00:12.010	the mummy bird was knitting
00:00:12.460	00:00:17.770	and then the egg
00:00:17.770	00:00:20.930	and then he bumped the blanket
00:00:20.930	00:00:21.780	put the egg in
00:00:21.780	00:00:23.690	and the egg was jumping
00:00:23.690	00:00:26.770	and then it comes to Jerry's house
00:00:27.160	00:00:29.040	and then jerry was
00:00:29.040	00:00:30.990	and the egg went
00:00:30.990	00:00:32.990	and then the baby egg went out
00:00:32.990	00:00:36.270	and the baby egg went
00:00:36.270	00:00:38.890	and say jerry is his mother
00:00:43.510	00:00:49.250	and then jerry
00:00:49.250	00:00:54.710	and then the baby bird was eating Jerry's his dressing table
00:00:54.710	00:00:58.040	and then he mess Jerry
00:00:58.040	00:01:00.990	and then he messed Jerry's lamp
00:01:02.050	00:01:06.195	and then he was poking the wall
00:01:09.850	00:01:11.420	and then he move
00:01:11.420	00:01:16.890	and then jerry hold the baby bird his mouth
00:01:17.590	00:01:21.480	and then the baby bird was cold
00:01:21.480	00:01:24.750	and then he took the baby bird to his nest
00:01:24.750	00:01:27.465	and he put it in the blanket
00:01:29.547	00:01:33.007	and then jerry go back to his house

9-10 years, Female

Begin Time	End Time	Clauses
00:00:03.610	00:00:08.610	the mother bird was sitting on her egg
00:00:08.830	00:00:10.550	and then she was knitting
00:00:10.550	00:00:12.690	then she decided to go out
00:00:12.690	00:00:13.995	because she saw the time
00:00:14.225	00:00:16.100	it was late so she had to go
00:00:16.195	00:00:18.210	the egg was jumping
00:00:18.210	00:00:19.440	then fell in a web
00:00:19.440	00:00:21.240	and then the web broke
00:00:21.240	00:00:23.002	and then it fell into a flower
00:00:23.217	00:00:24.860	then it rolled
00:00:24.860	00:00:27.202	into Tom's house
00:00:27.602	00:00:30.717	Tom found the bird egg
00:00:31.009	00:00:36.609	then the bird's egg hatched
00:00:37.714	00:00:40.990	then the bird was born
00:00:40.990	00:00:42.530	and it was little
00:00:42.530	00:00:43.950	and the bird went
00:00:43.950	00:00:47.009	ate Tom's wall and furniture
00:00:47.370	00:00:50.560	and then tom tried to give him food
00:00:50.760	00:00:52.420	and the food finished
00:00:52.420	00:00:54.390	and then he was trying to sit down

00:00:54.390	00:00:57.420	and think about what he’s going to do with the bird
00:00:57.690	00:00:59.750	then the bird ate his chair
00:00:59.912	00:01:01.156	then he decided
00:01:01.156	00:01:02.966	no I can’t keep this bird
00:01:02.970	00:01:04.770	so he went outside
00:01:04.770	00:01:06.680	and then he found the tree of the nest
00:01:06.680	00:01:08.760	then he went and walked a long way
00:01:08.760	00:01:11.392	then he put the egg back

Adult, Male

Begin Time	End Time	Clauses
00:00:07.465	00:00:09.005	there was a bird
00:00:09.602	00:00:14.195	which was enclosing its egg
00:00:14.905	00:00:16.335	then making it
00:00:17.950	00:00:19.010	putting it down
00:00:19.010	00:00:19.990	putting it in the nest
00:00:19.990	00:00:21.670	making sure that it is safe
00:00:24.262	00:00:28.014	i think the bird went in hunt for food
00:00:33.520	00:00:35.090	it went out of the nest
00:00:35.094	00:00:37.024	and it was
00:00:40.305	00:00:43.010	mobile and walking
00:00:43.680	00:00:45.170	very ironic of course
00:00:45.170	00:00:47.650	and walking down the leaves
00:00:47.650	00:00:49.780	and it went to the flower
00:00:49.780	00:00:52.770	and from the flower it rolled down
00:00:52.770	00:00:54.360	to the mouse house
00:00:55.390	00:00:56.610	the mouse was sleeping
00:00:56.610	00:01:02.160	and ironically when the mouse woke up
00:01:02.160	00:01:04.600	there was a egg next to him
00:01:07.610	00:01:09.750	the egg hatched
00:01:09.750	00:01:15.010	and then the hatched a little bird
00:01:16.750	00:01:18.080	sort of like a parrot
00:01:18.708	00:01:22.194	with a big beak
00:01:23.000	00:01:24.690	which grinds wood
00:01:24.690	00:01:26.710	which grinds everything
00:01:26.710	00:01:28.310	specially wood
00:01:28.816	00:01:33.754	so that the mouse welcomed the young bird lovingly
00:01:34.544	00:01:36.099	and from there
00:01:37.580	00:01:41.330	it acts wild
00:01:41.340	00:01:43.140	very ironically
00:01:43.140	00:01:44.140	to a sense that
00:01:46.270	00:01:48.200	we may assume that it was hungry
00:01:48.200	00:01:52.360	because the first assumption was that the mother was in search for food
00:01:52.360	00:01:59.450	and then the mouse offered this young bird a bread
00:01:59.450	00:02:03.899	and grinded the bread rigorously
00:02:04.374	00:02:08.629	and grinded every wood material that was in the house
00:02:09.570	00:02:12.180	and the mouse decided to

00:02:12.190	00:02:17.110	mitigate this problem that he has had now in his house
00:02:18.990	00:02:24.130	he took this little bird politely
00:02:24.130	00:02:26.090	and climbed the tree
00:02:26.090	00:02:28.480	and brought it back to the nest
00:02:28.480	00:02:33.120	where the mother placed him
00:02:33.120	00:02:35.890	this young egg
00:02:35.890	00:02:37.690	where he belongs
00:02:37.754	00:02:39.704	that was the sense of the story