The comprehension of ellipsis in isiXhosa-speaking Grade 1 learners

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Abstract

Ellipsis occurs on and above sentence level, forming part of the discourse-internal linguistic devices that children need to access and comprehend narratives and other classroom discourse for literacy and academic literacy development. A dearth exists in the knowledge about the development and mastery of ellipsis in child language, specifically for speakers of African languages regarding both first and second language acquisition timetables and contexts.

The study aimed to ascertain how well Grade 1 isiXhosa first language (L1) learners, with isiXhosa as their language of learning and teaching (LOLT) compared to other Grade 1 isiXhosa L1 learners with English as their LOLT; while evaluating if gaps exist in the possible mastery and development of ellipsis with regards to the LOLT. The isiXhosa LOLT group mastered both noun- and verb ellipsis by time 2, while the English LOLT group showed no mastery by time 2; although statistically significant development occurred between time 1 and 2 for the English LOLT group. A statistically significant difference is apparent in the comparison between the isiXhosa- and English LOLT groups for both times and ellipsis types, which points to a lack of comprehension of ellipsis in a non-mother tongue LOLT, which may impact future literacy development.

1. Introduction

Richards and Schmidt (2002, p. 177) define ellipsis as the "leaving out of words or phrases from sentences where they are unnecessary, because they have already been referred to or mentioned". Norris and Hoffman (1993) are in accordance with Merchant (2001), in that ellipsis refers to the omission of redundant elements of grammar from the discourse, but also add the idea of omission of vocabulary to the definition. Southwood and van Dulm (2012a) add that this omission can include the deletion of one or more words in a sentence. Ellipsis, consequently, involves the exclusion or elision of one or more redundant words or grammar elements by the speaker, which are not critical to understanding the message of a sentence or discourse. Furthermore, the listener has to be able to fill in the missing word or element through inference from the context provided, to complete the successful exchange of meaning (Norris and Hoffman 1993; Southwood and van Dulm 2012a). Ellipsis occurs on and above a sentence level, however, it also forms part of the discourse-internal linguistic devices that children need in order to access and comprehend narratives and other classroom discourses for (academic) literacy development (Halliday and Hasan 1976; De Beaugrande and Dressler 1981). It is necessary to specify that the definition of academic literacy refers to the ability to comprehend and participate in the academic discourse, which includes the ability to functionally comprehend but also produce "written and spoken texts as well recognising social norms and discursive practices of academic communities" (Richards and Schmidt 2010, p. 2). Southwood and van Dulm (2012a) outline in a literature review conducted on ellipsis, as part of the development of their assessment instrument, that while research recognises ellipsis as a universal language phenomenon, not all ellipsis types are allowed by every language. Different types of ellipsis, including gapping, stripping and answer fragments, can occur in the verb phrase (VP) and the noun phrase (NP), thus falling under two ellipsis types, namely, VP-ellipsis and NP-ellipsis. For the purpose of this study, the focus falls on VP- and NP-ellipsis within the above-mentioned subtypes (a description of each ellipsis type and subtype will be provided in section 3).

Southwood and van Dulm (2012a) amongst others like Fox and Lasnik (2003), Johnson (2009) and Smith (2001), however indicate a lack of consensus on whether all of the above-mentioned types can be classified as cases of ellipsis, and if so, how this classification ought to be made apparent. Consensus does, however, exist, firstly

that noun phrase ellipsis is more common across languages than verb phrase ellipsis, and secondly, that noun phrase ellipsis develops earlier than verb phrase ellipsis in child language (Goksun et al. 2011; Wijnen et al. 2004; Southwood and van Dulm 2012a). Furthermore, within the South African context, a dearth in the knowledge about development and mastery of ellipsis in child language can be found, specifically for speakers of African languages regarding both first and second language acquisition timetables and contexts. This article will outline how ellipsis plays a role in terms of reference and substitution in the creation of cohesion – a concept vital in the creation of academic literacy development. The article also provides a descriptive overview of VP- and NP-ellipsis and the age of acquisition from available studies followed by the data analysis, discussion and conclusion.

2. Ellipsis, cohesion and literacy development

The omission of an item, in terms of ellipsis, is linked to the concept of substitutions; where instead of putting something in the place of something else, the item is replaced by nothing. Thus, substitution by zero, with implied understanding, occurs (Halliday and Hasan 1976). This omission does not occur in sentential isolation but rather within the actual situations of use in texts or discourses. The evidence of the type of linguistic material, which is to be supplied as well as on which material this meaning creation rests, is based on presupposition occurring in the structure (Halliday and Hasan 1976). While reference (with a focus on determiners and anaphora) also plays a vital role in terms of textual presupposition, for the case of ellipsis, reference and substitution refers to sentences, clauses and phrases "whose structure is such as to presuppose some preceding item, which then serves as the source of the missing information. An elliptical item leaves specific structural slots to be filled from elsewhere in terms of different movement operations and lexical spell-out" (Halliday and Hasan 1976, p. 143). An endophoric reference thus exists to a presupposed structural mechanism in a text, from which meaning is drawn. An elliptical item consequently does not express all the features that are involved in the make-up of its structure and all the meaning choices which are embodied in it. Comparable to substitution, ellipsis is therefore an anaphoric reference relation where meaning and structure is dependent on distribution of meaning and form throughout the entire text or discourse (Halliday and Hasan 1976).

Ellipsis, as a discourse internal linguistic device and anaphoric relation with presupposition, has a cohesive effect. Such cohesion is based on reference and substitution, in which situational (exophoric) and textual (endophoric) presupposition, as well as, pointing backwards (anaphoric) or sometimes pointing forward (cataphoric) reference, occur. In this study, the focus falls on textual endophoric presupposition and anaphoric reference. Specifically, in this context, and in almost all written language, reference is always textual and mostly anaphoric, rather than situational (Halliday and Hasan 1976), as is apparent within items of the *Receptive and Expressive Activities for Language therapy* (REALt) testing instrument used in this study. While ellipsis can occur within sentences, this study focuses on the ellipsis occurring between sentences as a form of grammatical cohesion and texture building.

Cohesion and texture in text, defined as separate linguistic units, occurring as a unified whole, play a vital role in academic literacy development. Typically-developing children's narratives become more cohesive with age, as they continue to develop a sensitivity to logical structure and knowledge of what constitutes a cohesive but also coherent (and thus good) story. This logical structure aids in the cohesiveness of a text as the sentences are grammatically and semantically linked and consistent. The aforementioned narrative discourses aid the transition between oral language use and reading comprehension by means of the development of tacit knowledge of the structure of the discourse. Perfetti (1994) proposes that inadequate knowledge about text structures can act as a possible source of comprehension failure. Peterson and Dodsworth (1991) in Cain and Oakhill (2007) outline that the development of children's reading and writing skills are aided by the use of narratives in school, where the developmental pattern is believed to progress from conversational discourse to narrative based discourse to both general literacy and academic literacy (a fact which will be outlined in the NP-ellipsis discussion). Subsequently, narrative oral discourse and written texts share complex syntactic structures and abstract vocabulary (such as the inclusion of ellipsis as part of the grammatical syntactic and the lexical semantic development of a learner). The structure of the discourse is therefore partially dependent on grammatical cohesion, where according to McCarthy (1996) grammatical cohesion is defined as the surface marking of semantic links between clauses and sentences in written discourse and between utterances and turns in speech. This grammatical cohesion is expressed by multiple grammatical phenomena

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such as substitution, conjuncts and conjunctions, grammatical categories (such as tenses, voice or aspect in a text), reference (in terms of pronouns, articles or auxiliaries) and ellipsis (Varhánek 2007). Roeper (2007, p. 127) outlines that "grammar carves out verbal images in the mind that are so precise they give structure to silence itself". The following section provides a discussion about the different ellipsis types which occur in child language, child-directed speech, classroom discourse and which also occur within the REALt.

3. Discussion of different ellipsis types
3.1 NP-Ellipsis

NP-ellipsis occurs within a nominal group; the nominal group consists of a head, the central part of the phrase, and an optional modifier, where the modifier could either be a pre- or a post-modifier. A premodifier is defined as any element which occurs before the noun (the head) and modifies the noun by describing the noun or by limiting its meaning in some way; while a post-modifier is defined as any element which occurs after the noun (the head) and also modifies the noun. The modifier is combined with another source, on the experiential dimension, which could consist of either deictic- (i.e. *these*), numerative- (i.e. *three*), epithet- (i.e. *fast*), classifier- (i.e. *electric*) and/or qualifier- (i.e. *with lights*) elements. A deictic element, generally, refers to a determiner, in comparison to a numerative element, which refers to a numeral or another quantifier. An epithet refers to an adjective, while a classifier can refer to another noun. Lastly, a qualifier element refers to a relative clause or a prepositional phrase (Halliday and Hasan 1976). The functions of the head are served by the common nouns (i.e. *car*), proper nouns (i.e. *Thandi*) or the pronouns (i.e. *she/her*), expressing the entity in question (Halliday and Hasan 1976).

Common nouns occur as the elliptic elements in NP-ellipsis in the REALt and are further specified by the functions of the modifier elements. In the case of the REALt the head is not expressed in the sentence, which ultimately tests the comprehension of NP-ellipsis. However, the modifier element is present in the sentence. Modifier elements included in the REALt are deictics. Deictics are defined as linguistic elements with "direct reference" and are normally determiners (Kaplan 1989, p. 483). Nel (2014) concurs with Thomas (1965, in Karmilloff-Smith 1979) that determiners can be divided into three subclasses, namely predeterminers, determiners, and postdeterminers.

Determiners are categorised as articles (e.g., *a girl*, *the girl*), demonstratives (e.g., *that girl, those girls*) and genitives (e.g., *his book, their books*). Deictic expressions are also linguistic elements "with built-in contextual parameters" that must be specified by aspects of the situational or discourse context (grammatical cohesion) (Levinson 2004, p. 14). Other linguistic elements can be used deictically if they are combined with a genuine deictic or some other referential means. For example, a noun such as *plant* may refer to a concrete entity in the situational context if it is accompanied by a demonstrative that relates the concept of plant to a concrete entity in the surrounding situation (i.e. *that plant*). This is also the case with the description of determiners, which include demonstratives and genitives (both determiner types which feature as part of the ellipsis occurring in the testing instrument).

Nominal ellipsis thus involves the upgrading of an element from the status of modifier to the status of head. An elliptical nominal group requires that the information necessary for filling it out should be available from a preceding nominal group and it is therefore cohesive (Halliday and Hasan 1976). An elliptical nominal group may always be replaced by its full non-elliptical equivalent, in a simple form or in an expanded, partitive form, where presupposed forms may be restored. An elliptical nominal group is cohesive as it points anaphorically to another nominal group which is presupposed by it. The range of possible presuppositions is dependent on the structure of the nominal group.

If the head is filled by the modifier, specifically where deictic-, numerative-, epithet- and classifier elements take up the position of the head, the modifier must be presupposed by an element, specifically a common noun, proper noun or pronoun, which expresses the element or entity in question. Furthermore, a deictic may also be presupposed by a numerative-, epithet- or classifier element, while a numerative may be presupposed by an epithet- and classifier element. Lastly, an epithet element may be presupposed by a classifier and a classifier may not be presupposed by any element (Halliday and Hasan 1976).

In this study it is pertinent to note that the fieldworker provided the child with a narrative description of an image and then asked a question or provided an instruction, in which the head of the NP is removed (and ellipsis occurs) and only the modifiers remain. The

learner must consequently understand which element has been omitted from the questions or instruction and then choose the right element from the stimulus (previous text / narrative) to show if understanding of the nominal ellipsis occurs. Anaphoric reference and presupposition consequently occur between the given stimulus (the description of the image) and the question or instruction, which involves the partitive modifier (deictic element) as part of nominal ellipsis.

Example 1 from the REALt is illustrative of this intersentential presupposition and reference for the creation of cohesion in NP-ellipsis:

1. (i) *Here is John's swimming costume, and here is* **_Debbie's_** *swimming costume$_i$.* (ii) *Point to* **_Debbie's [...]$_i$_** *?*

(Southwood and van Dulm 2012b)

The nominal deictic function, normally functioning as the modifier (*Debbie's* in *Debbie's swimming costume*), occurring in the second independent clause of the compound sentence (i) in example 1 above), is upgraded to function as the head in the question (sentence (ii) in example 1 above). Only if the learner identifies the correct object (the swimming costume) belonging to the correct person (Debbie), will comprehension of the NP-ellipsis be completely accurate/mastered. Thus, in NP-ellipsis the structure which undergoes ellipsis is the noun phrase where the noun as the head is omitted. However, in the NP the omission of the structure can take different forms.

In example 2, also stemming from the REALt, the *wh*-question word or interrogative pronoun *whose* is being used.

2. (i) *Look at the caterpillars the twins are playing with.* (ii) **_Thandi's caterpillar$_j$_** *has bright red stripes.* (iii) *Pam's caterpillar has big green eyes.* (iv) **_Whose […]$_j$_** *has red stripes?*

(Southwood and van Dulm 2012b)

In the example, where answer ellipsis also occurs in this stimulus, the noun *caterpillar* is omitted in sentence (iv) and the noun stem is anaphorically referred to and presupposed by the NP *Thandi's caterpillar* in sentence (ii). Answer ellipsis occurs in question-answer sequences. The question contains a *wh*-word requesting missing

information and the answer supplies the requested information without repeating the redundant information in the question. This type of answer ellipsis is used to test the comprehension of NP-ellipsis in the REALt and will not necessarily occur in written discourses but will frequently occur in verbal classroom discourses during the learner's schooling (Southwood and van Dulm 2012a). The following ellipsis type which will be described is VP-ellipsis.

3.2 *VP-ellipsis*

Verbal ellipsis concerns ellipsis within the verbal group. According to Halliday, verbal ellipsis is "characteristic of all texts, spoken and written, and provides an extremely subtle and flexible means of creating varied and intricate discourse" (Halliday and Hasan 1976, p. 194). Corresponding to a nominal group, an elliptical verbal group anaphorically presupposes one or more words from a previous verbal group, however, the elliptical verbal group is not able to fully express its systematic features of the anaphoric VP and has to be recovered by presupposition. In comparison to nominal ellipsis, only one lexical element, the verb itself, is substituted by zero (Halliday and Hasan 1976) while the remainder of the verbal group expresses systematic selections which must be made when a verbal group is used. An elliptical verbal group carries over certain systemic selections from the group it presupposes. These systemic selections, which are obligatory for all verbal groups, are: (1) finiteness and modality, (2) polarity, (3) voice and (4) tense (for a detailed overview of these systemic selections please see Halliday and Hasan 1976).

On the other hand, "a verbal group whose structure fully represents all its systematic features is not elliptical" (Halliday and Hasan 1976, p. 167). For instance, in the example given in Halliday and Hasan (1976, p. 167), "*Have you been swimming? – Yes, I have.",* the entire verbal group would be *have been swimming,* where the lexical element is the unitary verb *swimming* and the entire group and their arrangement in this particular structure expresses the systemic grammatical selections. The uniqueness of VP-ellipsis lies in the inclusion of these selections in terms of the grammatical system features associated with the VP. It should be noted here that a one-to-one correlation between form, meaning and systemic features in the verbal group do not occur and that the group may be multivalent and ambiguous.

Consultation with the co-text is thus important in the comprehension of VP-ellipsis (Halliday and Hasan 1976).

McCarthy outlines that in comparison with nominal ellipsis, verbal ellipsis may cause greater problems to the speakers of the Romance and Germanic languages. He states that variants of verbal ellipsis "are not directly translatable to other languages and will have to be learnt" (McCarthy 1996, p. 44). Verbal ellipsis might thus cause difficulties for non-native learners, especially in comparison with nominal ellipsis. One of the reasons for such difficulties may include possible varying degrees of ellipsis within the same verbal group, which might to some extent confuse the learner trying to apply the ellipsis (Varhánek 2007, p.15).

It should be noted that Halliday and Hasan (1976) subdivide VP-ellipsis into lexical ellipsis and operator ellipsis. It will also become evident that as far as verbal ellipsis is concerned, more elements may be ellipted as "any phrasal expansion of [the verb (V)] can undergo ellipsis under appropriate discourse conditions, so that a V and all its complements, with or without its adjuncts can be ellipted" (Radford 1988, p. 236).

3.2.1 Lexical ellipsis

Lexical ellipsis refers to omission of lexical verbs from the verbal group. A lexical verb is defined according to Crystal (2008) as a verb, which expresses an action, event or state and is also referred to as a full verb in contrast to the auxiliary verb system, which expresses attitudinal and grammatical meanings (linked to operators, which will be outlined in the following subsection). The main verb of a verb phrase is always a lexical verb. Identifying lexical ellipsis should not cause great difficulties as "any verbal group not containing a lexical verb is elliptical" (Halliday and Hasan 1976, p. 170) This is illustrated by the following example from Halliday and Hasan (1976, p.170) which includes lexical ellipsis.

3. *Is Lisa going to **sing**$_k$ – she might **[...]**$_k$(sing). She was to **[...]**$_k$(sing), but she may not **[...]**$_k$(sing). She should **[...]**$_k$(sing), if she wants to be considered.*

The unitary occurrence of the verbs *might, was to, may not* and *should* are all examples of lexical VP-ellipsis since none of the auxiliary verbs are followed by a

lexical verb (*sing*). It subsequently follows that none of the modal operators can function as a lexical verb and consequently they can occur as partitive ellipsis where the operator remains, expressing modality and tense. From the above-mentioned discussion, it arises that "any verbal group consisting of a modal operator only, can immediately be recognised as containing ellipsis" (Halliday and Hasan 1976, p. 170).

One may also encounter another term for lexical ellipsis: ellipsis from the right (Halliday and Hasan 1976). This type of ellipsis is so named since lexical verbs that are affected by this kind of ellipsis are the last words within a verbal group. It should be highlighted here, that it is not only the lexical verb that is ellipted but preceding elements may also be omitted in lexical ellipsis, and the only element that has to be retained is the initial operator. Very good and commonly used examples of lexical ellipsis are question tags as the example *Mary didn't **know**ᵢ, did she [...]ᵢ(know)?* outlines. Halliday defines question tags as having "maximum lexical ellipsis" and that these tags "presuppose all the features of the relevant verbal group" (Halliday and Hasan 1976, p. 174). Thus, the distinction between which elements can undergo / or have undergone ellipsis has to be traced back anaphorically and through presupposition to the linked VP, either in a previous sentence or in the first part (main clause) of the sentence in question (Halliday and Hasan 1976, p. 171). The following subtype of VP-ellipsis to be discussed is operator ellipsis.

3.2.2 Operator ellipsis

Operator ellipsis is defined to be "characteristic of responses, which are closely tied to a preceding question or statement, and which have the specific function of supplying, confirming, or repudiating a lexical verb" (Halliday and Hasan 1976, p. 178). Logically, as opposed to the previous type of verbal ellipsis, another term for this type of ellipsis is ellipsis from the left.

Operator ellipsis concerns only the omission of operators since it does not apply to lexical verbs. An operator is defined as an auxiliary verb, which forms part of the predicate, performing a specific function or grammatical operation mostly linked to modality or tense. The operator is normally the first auxiliary in the verb phrase (Richards and Schmidt 2010; Crystal 2008). Normally, all words (the subject included) except the last (the lexical verb), are omitted. In the elliptical verbal group, grammatical

features are not realised and have to be supplied from the sentence that is presupposed. Such an omission is demonstrated in the following example: **Has she been_m crying? – No, [...]_m (she has been) laughing.** – it is only the lexical verb that is restored in the second sentence, where no finite element can be found in the elliptical group – finiteness and modality, as well as polarity and tense, thus have to be presupposed (Halliday and Hasan 1976).

Another feature of operator ellipsis is the absence of the subject, which must be presupposed from the previous utterance. Except for the absence of the subject and operators, one more aspect makes operator ellipsis easy to recognise, namely, the absence of any finite elements in the elliptical group. With operator ellipsis two types of uncertainty remain – both which have to be resolved by referring to the surrounding text: (1) verbs which have ambiguous forms, make it hard to distinguish between for instance the past- and the passive participles and (2) the occurrence of the systemic selection between finiteness and non-finiteness.

Operator ellipsis involves ellipsis of the whole modal element while lexical ellipsis involves ellipsis of the whole of the residue, the propositional element in the clause. Verbal ellipsis often includes the omission of other elements in the clause besides verbal elements. Specifically, operator ellipsis involves ellipsis of the whole modal element, which can include the subject as a nominal group and the predicate as a verbal group. Lexical ellipsis, in comparison, involves ellipsis of the whole of the residue, the propositional element in the clause which can include the predicate as a verbal group, the complement as a nominal group and the adjunct as the prepositional group. In the example *The children won't sing songs in class*, the modal element includes *the children* (subject) *won't* (as part of the predicator) while the propositional element includes *sing* (as part of the predicator) *songs* (completement) *in class* (adjunct)*.*

The omission of the related clause elements thus forms part of verbal ellipsis. These related clause elements are in the same part of the clause as the relevant portion of the verbal group, occurring either in the modal element or the propositional element. In operator ellipsis omission of the finite part of the verbal group occurs. While, in lexical ellipsis the subject is also omitted, in operator ellipsis omission of the non-finite

part of the verbal group occurs and all complements and adjuncts are also omitted. These elements are omitted unless they are explicitly reduplicated. It is important to note that they can be reduplicated. The omission of the canonical subject position and the agreement ellipsis, where the subject is part of the substitution by zero, can also be explained in terms of stripping or bare argument ellipsis under VP-ellipsis. In the REALt assessment instrument three different types of VP-ellipsis occur, namely two types of lexical ellipsis of the verbal group but also of the verbal group and the complement. The third type of ellipsis which is tested, is operator ellipsis, in which stripping occurs.

In the REALt two out of the ten items occur in the present tense where only one main / lexical verb is used in the first independent clause and undergoes lexical VP-ellipsis in the second independent clause of the instruction. In example 4 the conjugated verb *put* is elided.

4. *Mrs Martin tells Stevie, "Put$_n$ your car on the shelf, and [...]$_n$ your boat there too". What must Stevie do with his boat?*

(Southwood and van Dulm 2012b)

Furthermore, four out of the ten assessment items for VP-ellipsis undergoes lexical ellipsis where the complement is also part of the elision. In example 5 the elided elements include the lexical verb and the complement *do* and *your* / *her homework*.

5. *Mrs Martin is in a hurry to put the supper on the table, so she tells Debbie, "You **did your homework**$_o$ quickly yesterday, and you must [...]$_o$ now too". What must Debbie do?*

(Southwood and van Dulm 2012b)

Lastly, the other remaining four items outline subject and predicate ellipsis as examples of stripping and/or gapping ellipsis as part of operator ellipsis. In example 6 the elided elements include the subject *he* and the verb *brought*.

6. ***Mr Martin brought**$_p$ along the matches and [...]$_p$ the lighter too.*

(Southwood and van Dulm 2012b)

In conclusion, it is important to note that the lexical verb in terms of lexical ellipsis may be presupposed but in terms of operator ellipsis the lexical verb is always expressed. Finiteness and modality as systematic elements are always expressed during lexical ellipsis but are presupposed in operator ellipsis. Polarity on the other hand is also always expressed during lexical ellipsis, however, it is not presupposed during operator ellipsis. Voice is, however, presupposed in both lexical and operator ellipsis. Voice can also be reduplicated under specific conditions in operator ellipsis. Lastly, tense is not presupposed in lexical ellipsis, unless last order selection in compound tense occurs, while it is always presupposed (unless it is reduplicated) in operator ellipsis (Halliday and Hasan 1976). The following section outlines the age of mastery of the ellipsis types described in this section.

4. Age of mastery of ellipsis in child development

Typically-developing young children are relatively capable of dealing with ellipsis and the child-directed speech to which they are exposed contains many elliptical structures; possibly because for children the comprehension and production of 'shorter' is probably 'easier' (Roeper 2007). Looking at corpus data from Childes (MacWhinney 2000), a 2-year-old can already produce structures containing NP-ellipsis. However, production of a structure does not imply comprehension or full control over the structure at hand, and looking at corpus data from another example of Sarah, when she was 2 years and 4 months old (Brown 1973), outlines that ellipsis in child-directed speech can also lead to communication failure. Mastering all elliptical structures and being able to reconstruct previous linguistic information from the discourse might not be so easy for younger children. The question arises thus if ellipsis is not a later developing construction for typically-developing children, which is acquired between the ages of four and nine.

Demuth, Mochabane and Moloi (2000), while looking at word-order learning constraints under conditions of object ellipsis in Sesotho, outline that although three- to four-year-olds perform above chance on forced-choice elicited-production tasks, eight-year-old children cannot make use of the syntactic restrictions that govern these constructions in an adult-like manner. Similarly, Krämer (2000) claims that children up to the age of six have difficulties integrating discourse information.

Wijnen et al. (2004) however query the finding that children's abilities to integrate discourse information are poor. Their results contradict the possible poor integration, as English 4-year-olds can, already, integrate discourse information 74,4% of the time (Wijnen et al. 2004; Lindenbergh et al. 2015). While they do not respond at ceiling, it shows that these children are quite capable of integrating the linguistic discourse, and can ignore the conflicting visual information. This conclusion does not support the claim that children until the age of six are not capable of discourse integration.

Goksun et al. (2011) further outline that, along with the above-mentioned linguistic discourse integration skills, children first make use of pragmatic information in interpreting elliptical utterances. During the course of development, they start to rely on linguistic information and only then behave adult-like with these structures. Goksun et al. (2011) furthermore argue that children first learn to deal with NP-ellipsis and only later with VP-ellipsis, which implies an acquisition path for ellipsis (Lindenbergh et al.2015).

The development of VP-ellipsis has been examined for English (Thornton and Wexler 1999; Matsuo and Duffield 2001; Foley et al. 2003; Thornton 2010), and also for Portuguese (Santos 2009), Japanese (Matsuo 2007), and Mandarin (Fangfang et al. 1996). These VP-ellipsis studies outline that 5-year-old children can correctly interpret structures with ellipsis and that they know how syntax and semantics constrains ellipsis sites and how these sites are interpreted. According to these above-mentioned studies, table 1 below can serve as a summary for the age of acquisition of the study of specific ellipsis types in child language acquisition.

Table 1. Summary of age of acquisition for NP- and VP-ellipsis types.

Ellipsis type	Age of acquisition / mastery in literature	Age of acquisition / mastery in the REALt	
		English L1 high socio-economic status	isiXhosa L1
NP-ellipsis	After 4 but before 6	4-5 years old	No data available
VP-ellipsis	5 years old	7-8 years old	

5. Objectives

The study, firstly, aimed to ascertain how well Grade 1 isiXhosa L1learners with isiXhosa as their language of learning and teaching (LOLT) and Grade 1 isiXhosa L1 learners with English as their LOLT master the comprehension of ellipsis. The study, secondly, aimed to ascertain if gaps occur in the possible mastery and development of ellipsis with regards to the LOLT of these isiXhosa-speaking learners.

Taking the above-mentioned aims into consideration, the study has two main research questions

(i)   How well do Grade 1 isiXhosa L1 learners with isiXhosa as their LOLT and Grade 1 isiXhosa L1 learners with English as their LOLT perform at the beginning and at the end of Grade 1 on ellipsis comprehension tasks and;

(ii)   how the scores of the two groups compare with each other.

6. Methodology

Two low socio-economic groups of L1 isiXhosa learners, with either isiXhosa or English as LOLT, were tested quantitatively with the *Receptive and Expressive Activities for Language therapy* (REALt) assessment tool (Southwood and van Dulm 2012b) in February (time 1) and November (time 2) of their Grade 1 year, focusing on comprehension tasks targeting NP- and VP-ellipsis. Ethical clearance for the study was granted by the Research Ethics Committee (Humanities) of Stellenbosch University (Protocol number GL010812). The two study schools' principals and pertinent teachers gave their consent for the study to be carried out. By sending informative letters and consent forms to participants' parents or legal guardians via the school, we were able to secure their informed consent. After the fieldworkers had described to them in isiXhosa what research is and what duties they would be expected to carry out, the participants signed a consent form. Participants and their parents or legal guardians were also made aware that participation could end at any time without giving a reason or incurring any penalties. As part of the research procedure, confidentiality and anonymity were guaranteed at all times, including by using participant numbers rather than participant names.

6.1 Design

The current study forms part of a larger project on later-developing language skills in young school-going Afrikaans-, English-, and isiXhosa-speaking children (see Nel 2014). In this study the comprehension of ellipsis was assessed amongst isiXhosa-speaking children from two schools, one with English as LOLT and the other with isiXhosa as LOLT. Data were collected in the LOLT of the learners at the beginning (time 1) and end (time 2) of the Grade 1 year. The study was empirical and had a longitudinal and cross-sectional design.

The first aim of the study reflects a longitudinal design, by examining changes that occur over the course of a school year. The second aim of the study reflects a cross-sectional design where participants were grouped according to LOLT to see if and how the level of mastery of ellipsis differs between these two groups. Data were collected with an action research approach; where a cyclic process with a series of steps that include planning, observing, and evaluating the effects of a specific action which is to be researched, was followed (Gray 2004).

6.2 Participating schools and participants

Data on L1 isiXhosa-speaking learners were gathered in two similar schools with one school having English as LOLT and the other school having isiXhosa as the LOLT. The selection criteria for the schools included that both schools had to be situated in communities with low SES, have a National Quintile of 3 or lower (i.e. be non-fee-paying schools) and have the same geographical classification (i.e. both being urban). The English LOLT group is made up of learners from a parallel medium school, with an Afrikaans and an English stream. It is situated in a rural community 10 km from the closest town centre. The school's 923 learners live on the surrounding farms and in various nearby informal settlements. The school has a National Quintile of 1 as well as one educator per 34 learners. At the first point of data collection, the participants from this school (14 male; 16 female) had a mean age of 6.6 years (range 6.0 years – 7.6 years). The isiXhosa LOLT group consists of learners from a township school next to the industrial area of the same town, and are situated 3.4 km from the same town centre. It has 1494 learners and one educator per 40 learners with a National Quintile ranking of 1. The mean age of the participants from this school (15 male; 16 female) was 6.8 years (range 6.0 – 8.11 years) at the first point of data collection.

6.3 Data collection material

The data collection instrument was the ellipsis booklet of the Receptive and Expressive Activities for Language Therapy (REALt; Southwood and van Dulm 2012b). The REALt material was designed for the purpose of being used as a language intervention material for children between the ages of four and nine, and who have been diagnosed with a language delay or disorder. The instrument can, however, also be used as an informal language assessment instrument, which is suitable for first language (L1) and second language (L2) speakers of English as well as for children from poverty-situated communities which can profit from directed language stimulation to aid with language development (Southwood and van Dulm 2012a). Since the initial publication in Afrikaans and English, the English version was translated into isiXhosa by the REALt authors and the English and isiXhosa versions were used for data collection in this study.

6.4 Data collection and analysis

Two fieldworkers collected data from each learner by using the LOLT in question (either isiXhosa or English). The IsiXhosa-speaking Grade 1 learners (61 in total) were tested with the ellipsis booklet of the REALt (30 with English and 31 with isiXhosa as LOLT). Paper scoresheets were used to record responses after which the data was entered electronically into a Microsoft Excel spreadsheet. During the assessment the participant's most recent response was noted. The fieldworker followed up with a somewhat more extensive version of the initial question in the event of an incorrect or off-target response being provided.

Descriptive statistics were used to analyse the data and answer the first research questions by, firstly, calculating the percentage of responses correct for each subtype per learner. Secondly, the average of these percentages for each subtype per LOLT group was determined after which, thirdly, the average percentage of all comprehension subtypes were collectively calculated for each LOLT group. Mastery was indicated for each of these steps by setting the level of mastery at 90% accurate responses. Fourthly, a comparative statistical analysis was conducted by means of the Wilcoxon matched pairs test at the beginning and at the end of the year (time 1 and time 2) for each LOLT group separately, with $p < 0.05$ as significance level. The

direction of significance (whether scores were better in time 1 or in time 2) was determined by means of inspecting Box and Whisker plots.

The data for the English LOLT group and the isiXhosa LOLT group were also compared to each other, in order to answer research question 2 to ascertain whether gaps exist in the possible mastery and development of ellipsis with regards to the LOLT of these isiXhosa-speaking learners. This was done by means of the Mann–Whitney U test, where the English-LOLT group was compared to isiXhosa-LOLT group data were collected in time 1 as well as time 2. Box and Whisker plots were used to indicate the direction of significance.

7. Results and discussion

The results will, firstly, outline the answer to research question 1 by discussing how each group fared in time 1 and time 2 before a comparison is drawn between the groups. Research question 1: How well do Grade 1 isiXhosa L1 learners with isiXhosa as their LOLT and Grade 1 isiXhosa L1 learners with English as their LOLT perform at the beginning and at the end of Grade 1 on ellipsis comprehension tasks.

The English-LOLT group showed no mastery in time 1, as none of the mean averages reached the mastery level of 90%. In time 1 it is evident that learners receiving their education in English and not in their mother tongue fared above chance for NP-ellipsis (with a mean score of 62%) but were still struggling with VP-ellipsis (with a mean score of 22%). This is also the case for time 2 where NP-ellipsis (with a mean score of 72%) and VP-ellipsis (with a mean score of 52%) were still not mastered by the end of Grade 1. Here it is however important to note, that even though no mastery occurred at times 1 and 2, statistically significant development occurred when comparing time 1 and 2 for the English LOLT group. These results reflect the descriptive statistics for the group. When looking at the minimum and maximum descriptive statistics, it is clear that some learners, on an individual level, could master NP-ellipsis as they could correctly respond to all 10 items in the assessment in both times. Individuals could master 90% of the VP-ellipsis in time 2, with having 9 out of 10 items correct in time 2 in comparison to only having 7 out of 10 items correct in time 1, as outlined in table 2 below.

Table 2. Descriptive and comparative statistics for the isiXhosa L1 with English LOLT group

	isiXhosa L1 with English LOLT Time 1 (data provided in percentage format)				isiXhosa L1 with English LOLT Time 2 (data provided in percentage format)				Non-parametric test	
	Mean	Min	Max	Std dev	Mean	Min	Max	Std dev	Compare Time 1 with Time 2 Wilcoxon Matched Pairs test	
Ellipsis of nouns	62	0	100	2,390811	72	10	100	2,099591	**p= 0.03752.**	**The result is significant at p < .05.**
Ellipsis of verbs	22	0	70	1,776324	52	40	90	2,454316	**p < .00001**
Total ellipsis	35	0	75	4,606696	62	20	90	3,784897	**p < .00001**

The isiXhosa-LOLT group showed mastery in time 1 for NP-ellipsis as the mean average reached the mastery level of 90%. In time 1, it is evident that learners receiving their education in terms of their mother tongue can master NP-ellipsis (with a mean score of 98%) but are still struggling with VP-ellipsis (with a mean score of 85%). While this trend is the same as the English-LOLT group, where they also have not mastered VP-ellipsis by the start of their Grade 1 year, a vast difference exists between the two groups (as will be outlined in the comparison of the two groups further on in this section). In time 2, NP-ellipsis mastery remained stable (with a comparable mean score of 97%). By time 2, the isiXhosa-LOLT group showed a statistically significant mastery of VP-ellipsis (with a mean score of 96%). Again, with this group, these results reflect the descriptive statistics for the group. When looking at the minimum and maximum statistics, it is clear that some learners, on an individual level, could master both NP-ellipsis and VP-ellipsis already at the start of their Grade 1 year as they could correctly respond to all 10 items in the assessment in both times as outlined in table 3 below.

Secondly the two groups are compared in order to answer the second sub question of research question 1, namely to ascertain how the scores of the two groups compare with each other, but also research question 2 to ascertain whether gaps exist in the possible mastery and development of ellipsis with regards to the LOLT of these isiXhosa-speaking learners.

Table 3. Descriptive and comparative statistics for the isiXhosa L1 with isiXhosa LOLT group

	isiXhosa L1 with isiXhosa as LOLT Time 1 (data provided in percentage format)				isiXhosa L1 with isiXhosa as LOLT Time 2 (data provided in percentage format)				Non-parametric test	
	Mean	Min	Max	Std dev	Mean	Min	Max	Std dev	Compare Time 1 with Time 2 Wilcoxon Matched Pairs test	
Ellipsis of nouns	98	70	100	0,590273	97	80	100	0,531581	p= 5	The result is not significant at p < .05.
Ellipsis of verbs	85	60	100	1,10119	96	80	100	0,617531	p= 0.0001.	The result is significant at p < .05.
Total ellipsis	92	80	100	1,217161	97	85	100	0,816497	p= 0.0007.	

Comparative statistics at the hand of a Mann-Whitney U test, show that a statistically significant difference occurs in the comparison between the isiXhosa- and English-LOLT groups for both times and ellipsis types. From the descriptive statistics above, it is clear that in terms of NP-ellipsis, the English-LOLT group could not master the ellipsis type at either times and that the isiXhosa-LOLT group could. For NP-ellipsis, learners who receive their education in their mother tongue are statistically significantly ahead in terms of their mastery and development as well as in terms of their possible academic literacy development both at the start and the end of their Grade 1 one in comparison to their counterparts not receiving their education in their mother tongue. Also, as mentioned above, even though both the English-LOLT group and the isiXhosa-LOLT group could not master VP-ellipsis at the start of Grade 1 in time 1; where statistically significant difference between the level at which both groups could perform in terms of VP-ellipsis is apparent. While the isiXhosa-LOLT group, whose learners receive their education in their mother tongue, could develop their comprehension of VP-ellipsis statistically significantly during their Grade 1 year, the English-LOLT group could also do so but not to the same level of their counterparts and also not to the level of mastery. Table 4 below outlines that both in time 1 and time 2, the comparison outlines a statistically significant difference between the two groups, having significant implications for literacy development for the English-LOLT group, who receive their education in a non-mother tongue.

Table 4. Comparison of isiXhosa LOLT to English LOLT

	Mann-Whitney U test isiXhosa-LOLT vs English-LOLT			
	Time 1		Time 2	
Ellipsis of nouns	p < .00001.	The result is significant at p < .05.	p < .00001.	The result is significant at p < .05.
Ellipsis of verbs	p < .00001.		p < .00001.	
Total ellipsis	p < .00001		p < .00001.	

While this study only focuses on the difference between mother tongue and non-mother tongue LOLT and the implications it may have on the mastery and development of ellipsis as well as the related academic literacy in terms of cohesion development, it has to be outlined that the language of learning and teaching plays a vital role in when learners master these discourse internal linguistics devices, which play a vital role in the development of their academic literacy. If a learner still cannot master these devices at the end of their Grade 1 year, they fall behind their peers, who can master them. This shows the important role LOLT plays in the language development of typically-developing children.

These two groups that were tested also differ from other data already present in literature in terms of the fact that they have a low socio-economic status (SES). The following table, table 5, provides an overview of the literature with the data of this study included, to show that this cohort in terms of not receiving their education in their mother tongue, has a possible delay in terms of the ellipsis mastery and development, but that they are actually doubly delayed when compared to their SES counterparts. Learners with higher SES can already master NP-ellipsis by the age of 4-5 years.

Table 5. Summary of age of acquisition for NP- and VP-ellipsis types including current study data.

Ellipsis type	Age of acquisition / mastery in literature	Age of acquisition / mastery in the REALt		Age of acquisition / mastery in current study	
		English L1 high SES	isiXhosa L1	isiXhosa L1 and isiXhosa as LOLT (low SES)	isiXhosa L1 and English as LOLT (low SES)
NP-ellipsis	After 4 but before 6	4-5 years old	No data available	Start of Gr 1 (6;1-8;11)	Only after (6;9-8;2)
VP-ellipsis	5-years old	7-8 years old		End of Grade 1 (6;10-9;7)	Only after (6;9-8;2)

It is further important to note while this study is longitudinal in nature, looking at the mastery and development of ellipsis over the course of a school year, it is still cross-sectional in nature too. In order to obtain a more accurate representation for age of acquisition of the children receiving their education in terms of their mother tongue it would be beneficial in terms of ellipsis mastery and development to test children before the start of grade 1 as their mastery could be even earlier when compared to other literature available.

8. Conclusion

Contradicting findings according to the age of acquisition for both NP-ellipsis and VP-ellipsis types still arise and can be seen in both the availability of literature and within the available REALt data due to the dearth of comparable L1, L2 and SES variables. Consistent confirmation from standardised testing outlines that South African learners' literacy, in both their home language and English as an additional language does not measure up to international norms (Hendricks 2014). While this study only reports on a small percentage of learners and a singular grammatical phenomenon, be it both longitudinally and cross-sectionally, it points to a lack of comprehension for ellipsis in a non-mother tongue (or L2) LOLT. This lack of comprehension may impact future literacy development with a possible delay in mastery in comparison to other peers and in terms of the age at which specific curriculum standards are taught in schools. Further, a doubled delay may occur for learners stemming from a low SES when REALt data is compared to L1 English with high SES. Furthermore, the data obtained during this study points to the fact that verbal ellipsis might cause difficulties for non-native learners. A large dearth still remains in terms of the age of acquisition and mastery as well as development for the ellipsis construction in child language acquisition research within the South African linguistic context.

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