

**COMPARING ORAL LANGUAGE AND READING COMPREHENSION**

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## **Comparing oral language and reading comprehension**

### **Abstract**

This presentation is based on preliminary findings following interviews with Aboriginal and non-Aboriginal students from remote, provincial and metropolitan areas about their strategies for reading multimodal texts in NSW literacy tests. This PhD research is part of an Australian Research Council (ARC) Linkage project which aims to develop a model of image-text relations.

The paper investigates the characteristics of successful and struggling readers based on analysis of the complexity of texts read and the linguistic repertoire such as complexity of oral grammar and vocabulary, exhibited by students during think aloud reading sessions and interviews. It is suggested that explicit teaching about language and the use of oral communication needs to be a focus in the early years of school, and prior to and throughout the teaching of reading.

### **Oral and written language**

Formal written language is difficult for young students to comprehend because it is so different from the oral language that children use to make sense of the world. Lemke (1988, p. 136) explains the importance of spoken language to the comprehension of texts:

*“The problem of learning through texts is, I believe, fundamentally a problem of translating the patterns of written language into those of spoken language. Spoken language is the medium through which we reason to ourselves and talk our way through problems to answers. It is for the most part, the medium in which we understand and comprehend.”*

Oral language in dialogue focuses on simplifying meaning while formal language is often concerned with conveying complexity of meaning. H. Douglas Brown (1994, p. 29) cites Dan Slobin (1986) to advance the idea that sequences of cognitive development are determined more by semantic complexity than by structural complexity in language:

*“There are two major pacesetters to language development, involved with the poles of function and of form: (1) on the functional level, development is paced by the growth of conceptual and communicative capacities, operating in conjunction with innate schemas of cognition; and (2) on the formal level, development is paced by the growth of perceptual and information-processing capacities, operating in conjunction with innate schema of grammar.” (Slobin, 1986, p. 2)*

This quote does not deny the importance of structural complexity, after all it is part of ‘form’, one of Slobin’s poles of language development. This pole of ‘form’ has been largely ignored by many researchers because of the more obvious effect of semantic complexity on cognitive development at the functional level. However, function and form work together and students must develop both aspects of their language. In fact, the structure of language often creates connections and cues which help the reader to access meaning. The term ‘innate schema of grammar’ in the above quote implies that the capacity for learning grammar is equal in all people at birth, unless the language area of the brain has been damaged. It does not mean that grammatical knowledge is equally developed after birth and therefore it does not deny a social constructivist view that language can be developed through social interaction and interventions to support or ‘scaffold’ language learning.

### **The role of scaffolding in oral language development**

Vygotsky (1996, p. 187) describes the gap between a child’s actual development and his or her potential development, when learning is assisted, as the Zone of Proximal Development or ZPD. The form of assistance Vygotsky intended was by “teachers explicitly directing a child’s learning” (Knapp & Watkins: 2005, p. 77). Hammond (2001, p. 2) cites Wood, Bruner and Ross (1976) as “the first to use the term ‘scaffolding’ as a metaphor to capture the nature of support and guidance in learning.” Knapp and Watkins (2005, p. 78) point out that, “Halliday (1975) and Painter (1991) demonstrated the ways in which parents and caregivers actively support young children in their construction of spoken texts scaffolding their language use” and that their research about ‘scaffolding’ learning together with Vygotsky’s ideas about ‘directing’ learning were important in the development of the modeling and joint construction approach to teaching students to write independently.

However, an approach involving scaffolding language use and modeling can also assist students in learning to read. As Lemke (1988, p. 136) points out, spoken language is “the medium in which we understand and comprehend”. It follows that students need to use oral language, which is scaffolded by teachers or other adults, to improve their comprehension of written texts. Brian Gray has long promoted such an approach, for Indigenous and other students who are behind in literacy achievement, through ‘concentrated language encounters’, ‘scaffolding literacy’ (Gray, 1985, p. 1990) and now ‘Accelerated Literacy’ (Wills, Lawrence and Gray, 2006). Accelerated Literacy involves students in discussion about literate texts in a way that leads them to use and understand the literate language of the text. Through this approach students also deconstruct a text, examine its purpose and structure and through transformation of parts of the text students discuss how the author structured the text and determine why it was written that way. As Hammond (2001, p. 21) says, “understandings and knowledge are constructed, in the first instance, in and through the spoken-language interactions that occur in the classroom between teacher and students”, so these interactions “are crucial in teaching and learning”.

### **Societal differences in language development**

Hasan (1996, p. 394) points out that, “children from different segments of the society come to school speaking differently: their literacy development will take different forms”. This is a natural result of acquiring language as it is scaffolded and/or modeled by family and local community members. If the family and community group do not speak formal English then it follows that their children will not be familiar with the terms and structures of formal English. Hasan (1996, p.394) explains the educational consequences as follows:

*“specialized contexts of education are somewhat remote from the contexts of everyday living so that it is rather doubtful that the ability to engage in educational discourses could develop naturally without experience of the educational processes...”*

*Members of the dominating classes do engage more often, than do those of the dominated ones, in practices of saying and meaning which are closer in their discursive properties to educational discourses.”*

Williams (1998, p. 41) also found evidence of “significant variation in a range of language practices associated with participants’ social class locations” in Sydney. Within the same context, Heath (1982, p. 56) points out the importance of talk in learning to read:

*“Close analyses of how mainstream school-oriented children come to learn to take from books at home suggest that such children learn not only how to take meaning from books, but also how to talk about it.”* (cited in Gray, 1990, p. 111)

The current research seeks to identify whether there is any relationship between reading comprehension levels and oral language development at the clause structure level (complexity and degree of formality of oral language) and/or at the word choice level (semantic and or dialectal differences). Previous research (Daly, 2006) has indicated a relationship between the use of an Aboriginal English dialect and grammar choices made during writing and language assessments, but no direct relationship between use of Aboriginal English and level of reading comprehension. It is therefore expected that any relationship between reading comprehension in literacy tests and oral language used in interviews will concern aspects of formality in the language structure and semantic choices, which are typical of ‘educational discourses’ (Hasan, 1996, p. 394), rather than the dialectal choices of students at the word level. It is probable that, in the absence of teacher scaffolding, language practice, and consequently oral language development, will be related to socio-economic status, as found by Williams (1998) with young children in different social class locations. However, without information about family income or residence it will not be possible to pursue such a line of enquiry in this study.

### **The importance of spoken language to reading comprehension**

Axford (2007, p. 33), who uses the scaffolding literacy approach in tutoring programs, claims that, “‘Learning to be literate’ is, by its very nature, dialogical: it is about entering the human conversation as a reflective participant”, and she notes the importance of recognizing author intention and communication in relation to reading and writing. Another important aspect of the Scaffolding Literacy teaching sequence is that students have conversations with the teacher about a text using the literate language of the text and the way this scaffolds their spoken language.

Lemke (1988, p. 140) explains how developing students' dialogue helps them to comprehend texts:

*“It [dialogue] can enmesh them [students] in multiple verbalizations of the same pattern, bridging between formal and colloquial language, and pushing them on toward the abstract thematic pattern that aligns these visibly with one another... To make texts talk, we need to help students fully speak their meanings, out loud. We need to help students talk their way to comprehension.”*

In order to allow for “bridging between formal and colloquial language”, it is important that student reading materials include good literature or formal factual texts and that discussions about these texts should be carefully guided by verbal scaffolding. Brian Gray (1985, p. 98) warns against the use of “basal texts which have a distorted cohesion and text organization” and says of such texts, “They often bear no relation to the texts children are expected to read in the community and in the later years of their education.” In fact, Hammond (1991, p. 51) points out that “the further a child progresses through school, the more significant are the differences between spoken and written language.” However, this does not mean that students' spoken language stays the same throughout their schooling. Oral language also becomes more complex and formal over time but not as lexically dense as the texts students must read and write in the latter years of school.

Pauline Gibbons (1993, pp. 33-34) talks about the importance of spoken language in literacy development and gives the example of how reporting back to the class “offers opportunity for children to use longer stretches of discourse and to rehearse, with the teacher's guidance, ways of thinking and talking which are closer to written language”. It would seem logical that this oral practice of language, which is “closer to written language”, would make students more able to comprehend written language when they read.

### **Oral language complexity and the link to comprehension**

Students' capacity to use complex sentence structure in their oral language is probably related to their capacity to understand complex sentence structure in written texts. This hypothesis is inferred by Gray (1990, p. 113) who states:

*“it is doubtful if children can produce and understand written texts in any depth unless they can orally produce texts of that type themselves. We know also that children from literacy-oriented homes come to school with considerable experience in producing such texts, eg, Painter (1986), Wells (1982), Scollon & Scollon (1981), Heath (1982).”*

It is relevant that Gray says, “can orally produce texts of that type” not ‘do’, since one would not expect children to speak in a fully formal written-like mode for everyday purposes. However, as children mature their spoken language also matures and has the capacity for more complexity, so one could expect to hear some occasional evidence of more formal language structures such as complex sentences and/or nominalizations.

Perera (1984, p. 156) points out that some grammatical constructions are not frequently produced in oral language until adolescence and she includes the following:

- complex noun phrases (noun groups)
- adverbial clauses of place, manner, concession and hypothetical condition
- non-finite adverbial clauses (apart from those of purpose)
- some relative clauses (those introduced by a relative pronoun plus a preposition)
- some types of ellipsis
- all but the commonest sentence connectives

In regard to comprehension, Perera (1984) found that many grammatical constructions are not fully understood when a child starts school. These constructions include reversible passives and ellipsis of the verb or object in compound sentences. She also found that it is many years before children fully understand “adverbial clauses introduced by *although*, *unless* and *provided that*, as well as hypothetical and inferential ‘if’ clauses, many sentence connectives; and discourse-level ellipsis that is remote from its antecedent” (page 157).

Perera (1984) goes on to argue that, “children do not acquire these constructions until they are reading fluently, and then they are more likely to use them in writing than speech” (p. 157). It is certainly true that, for literate students, complex grammatical constructions are more likely to be used in writing than speech. However, if one considers the claim that reading fluency precedes the acquisition of complex grammatical constructions in oral language alongside Vygotsky’s (1962) observation that a child can use grammatical structures correctly before he understands their meanings, then it is important to remember that fluency and comprehension are not the same. Vygotsky (1962, p. 46) states, “The child may operate with subordinate clauses, with words like *because, if, when* ... long before he really grasps causal, conditional or temporal relations”. It would therefore seem that complexity of oral language precedes comprehension of complex language structures in texts and this would support Lemke’s (1988) statement that dialogue allows for “bridging between formal and colloquial language” (p.140).

### **Scaffolding reading comprehension by speaking text meanings**

The success of Brian Gray’s Accelerated Literacy (AL) program (Wills, Laurence & Gray, 2006) suggests that developing students’ oral language aids their reading comprehension. In AL students with low literacy skills are taught to read through scaffolding by a teacher who unpacks the complex written language into oral chunks that can be comprehended. At the same time this process develops the literate oral language that students need to discuss and comprehend literate written texts. In the transformations stage of the AL program students focus closely on word choice and sentence structure by reordering the text to find out how changing the order results in different meanings, then determine which grammatical constructions make sense and finally understand why the author chose the structure he or she used to achieve the intended meaning.

The importance of “the child’s own productive linguistic capabilities” for comprehending or “processing input” is substantiated by George & Tomasello (1984, p. 125) who found that even though “young children partially comprehend linguistic input somewhat above their own productive level, comprehension at an inferential level is best when input is closer to the child’s own productive level”. The AL scaffolding of highly literate texts unpacks the complex language which brings the texts closer to the “child’s own productive level” so they can be comprehended.

It also “helps students fully speak their meanings, out loud” (Lemke, 1988, p. 140) and in this way the scaffolding dialogue increases students’ productive level, because it is “bridging between formal and colloquial language,” giving students access to the language of literate texts. Many students from households with high levels of literacy have already experienced dialogue that scaffolds their understanding but this is not the case for all students (Heath, 1982; Gray, 1990; Hasan, 1996 and Williams, 1998).

The theoretical basis for a hypothesis relating capacity for oral complexity to the comprehension of complex written sentences comes from Olson and Torrance (1983, p.145) who state that during the early school years there is an important conceptual transformation which “depends on the development of a new orientation to language, specifically, an attention to and a competence with the structure of language per se as opposed to competence with the contents, intentions or messages expressed by the language”. They argue that “it has to do with learning to differentiate form from content, what is said from what is meant”. They suggest “that there is a shift from attention to the beliefs and intentions of persons towards the meanings and structures of sentences” (p. 148). This shift is also evident in the structural and semantic complexity of texts along the mode continuum.

**The mode continuum**

Language exists on a mode continuum which stretches from colloquial spoken text at one end of the continuum to formal written text at the other end. Halliday (1994) describes these texts in terms of grammatically intricate and lexically dense texts. The grammatically intricate texts tend to consist of simple sentences or independent clauses strung together in compound structures, while lexically dense text contains more grammatical metaphor such as the nominalization of processes and clauses. However, as Jones (1996, p. 13) points out that, “there isn’t always a clear dividing line between spoken and written language” and spoken language can be seen along an action-reflection continuum like the one she adapted from Martin (1985) below.

Informal face-to-face chat	Small group problem solving tasks	Reporting back on a task	News time	Spoken information reports	Reading aloud
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*Most spoken-like*

*Most written-like*

Language accompanying action  
Class discussions

Show and tell

Language as reflection

When one considers development along the mode continuum as a gradual shift from colloquial oral language to formal written language, then it makes sense that there will be a gradual handover which includes writing that is like speech and formal speech that is more like writing.

### **PhD research into multimodal reading comprehension and oral language**

In the first stage of an Australian Research Council (ARC) Linkage project, multimodal reading texts and questions from the 2005 Basic Skills Test (BST) were analysed. In 2006 the students, then around 9 and 11 years old, were interviewed about the multimodal texts and their reading strategies when answering the questions involving image-text relations. Analysis of the texts and results showed that students had more difficulty in comprehending image-text relations that required an understanding of parts of texts characterized by high structural complexity. For the PhD research, it was considered that the analysis of the texts, student results and research interviews would provide appropriate material for testing a hypothesis relating capacity for oral complexity to the comprehension of complex sentences.

Responses to the Year 5 text, *Tobwabba Art Gallery*, were particularly appropriate for testing the hypothesis because there were two questions requiring understanding of image-text relations based on different parts of the text. The more difficult question (44% of the state correct) involved understanding a structurally complex part of the text and the easier question (66% of the state correct) involved understanding a simple sentence and then making connections to the image (see separate text analysis). This was despite the fact that the easier question had a very plausible visual ‘distractor’ which 27% of children chose instead of the correct answer. The structurally complex part of this text was characterized by low lexical density, so comprehension of lexically dense terms was not an issue.

The quantity of complex language features exhibited in the interviews was expected to be low in view of the fact that formal language is not used as often in spoken language as it is in written language. As Jones (1996, p. 13) points out, “Written language is synoptic, about things” whereas most “spoken language is essentially dynamic, about happenings”. However, when students talk about things (texts) in interviews, they will be more likely to use written-like ‘synoptic’ language than they would in conversational dialogue, because the language will be at the reflective end of the spoken language continuum.

The hypothesis that oral language development is related to reading comprehension will be supported if students, who had higher achievements in the 2005 BST reading comprehension tests, use grammar that has more structural complexity (dependent clauses, ellipsis or passive voice) and/or semantic complexity (technical language, rank shifting or nominalization) in their interviews than students with lower levels of reading comprehension. Cultural background (gender, geolocation and Aboriginality) will be considered to see whether there are any differences for certain groups of students in view of the fact that students, who are male and/or Aboriginal and/or live in remote areas, have lower mean reading scores.

### **Subordinate clauses used in interviews**

Initial analysis of interviews with ten students whose reading scores placed them in the top achievement band and ten students with reading achievement in the lowest bands in the 2005 BST for Year 3 and Year 5, showed that, students with better reading scores used more dependent clauses in their spoken language.

Year 3 Students	Ratio of dependent to independent clauses		Year 5 students	Ratio of dependent to independent clauses
Top 29%	From 1:5 to 1:4		Top 21%	From 1:4 to 1:2
Bottom 23%	From 1:22 to 1:11		Bottom 28%	From 1:20 to 1:9

A metropolitan male Aboriginal student with a reading score in the top band in the Year 5 BST had the highest ratio of dependent clauses to independent clauses, whereas a provincial female Aboriginal student with a low reading score had the lowest ratio for the Year 5 students.

For the students who sat the 2005 Year 3 BST, a metropolitan male Aboriginal student with a reading score in the top band had the highest ratio of dependent clauses to independent clauses while the lowest ratio was in the spoken language of a remote male non-Aboriginal student with reading achievement in the lowest band. The only students in Year 3 who used adverbial clauses preceding independent clauses in their spoken language were high scoring readers.

Perera (1984) notes that in spoken language from the age of six the number of subordinate clauses used stays constant then around eleven years of age it begins to increase and from age 6 to 13 students use more finite adverbial clauses. As students move along the mode continuum, the use of more adverbial clauses is an important stage in learning to link related ideas within sentences. Students have to learn to use subordinate clauses in complex sentences before they can cope with lexically dense text which involves the nominalization of ideas or the representation of ideas as single words or nominal groups instead of as whole clauses. This is not easy for students, for example only 14% of Year 3 students and 35% of Year 5 students wrote at least one correct complex sentence in the narrative task for the 2006 Basic Skills Test (BST). Although the percentage was higher for the factual task (27% of Year 3 students and 59 % of Year 5 students), writing a complex sentence is still a difficult skill even for Year 5 students. The BST also provides evidence that writing dependent clauses that are non-finite or which precede independent clauses in a sentence are even more difficult skills.

Writing is not the same as speaking or reading but, as Brian Gray (1990, p. 113) points out, “it is doubtful if children can produce and understand written texts in any depth unless they can orally produce texts of that type themselves”. In order to help ‘at risk’ students to comprehend and “orally produce texts of that type themselves”, the National Accelerated Literacy Program teaching sequence (Gray, 2006) includes an exploration of text structure during the High Order Book Orientation stage and attention to the impact of word order and word choice during the Transformations stage.

From the small sample taken from the PhD study it is clear that both Aboriginal and non-Aboriginal students have the capacity to achieve high reading scores and to develop complexity in their oral language. Some researchers such as Perera (1984) claim that reading fluency leads to

oral complexity, however, the success of Accelerated Literacy seems to prove Gray's (1990) suggestion that understanding of written texts is probably preceded by the students' ability to "orally produce texts of that type themselves" (p. 113).

### **Features of non-standard English in student interviews**

Few examples of non-standard English dialects such as Aboriginal English were found in the interview transcripts and where they were found there were only one or two instances except for one Year 3 student who had five instances of non-standard verb form (the use of 'seen' for 'saw' and 'done' for 'did'). Since this student scored in the top 21% of students for reading comprehension and he used 17 dependent clauses to 86 independent clauses giving him a high clause ratio of 1:5, it is clear that dialectal differences in word choice did not impact on this student's ability to use grammatically complex oral language or comprehend written text.

This example is in keeping with the findings of Daly (2006) in which no direct relation was found between reading comprehension and the use of the Aboriginal English dialect, despite earlier findings that lower scores on grammar criteria in writing and language tests were related to the use Aboriginal English.

### **Use of the passive voice**

In the first twenty interviews analysed, only one student used the passive voice. This student was a male Aboriginal high achieving reader in Year 5. However, the interviews were not constructed in any way that would logically elicit the passive voice which is not common in conversation. Baldie (1976) posits that the ability to handle reversible transformations is a precursor to the use of the passive voice. However, Anna Trosborg (1982, p. 39) found that children can "to some extent produce the passive before they can make correct judgements of the equivalence of corresponding active and passive sentences". It would therefore seem that capacity in oral language precedes the ability to fully comprehend the passive voice.

Baker and Nelson (1984, p. 19) cite Horgan who found that no Agentive Non-Reversible passives appeared until nine years of age and no child produced both Reversible and Non-Reversible passives until age eleven. The importance of scaffolding for much earlier production

of passive sentences is evidenced in the research of Baker and Nelson (1984, p. 19) who found that, in three and four year olds, “once the passive transformation was presented to the children in input, and especially when their own utterance was recast, the children... quickly began to use passives and soon used them with wide semantic variation”.

### **Aspects of lexical complexity in oral language**

Many researchers have noted that Western style of literacy (Australian education) is ‘formal’ (Harris, 1984), ‘essayist’ and ‘decontextualised’ (Scollon & Scollon, 1981) and involves “many kinds of ‘secret’ English which are not made explicit in schools” (Martin, 1990) and one of the features they refer to is a high level of grammatical metaphor, such as nominalisation, that occurs in lexically dense text. Ideational metaphor “produces a high level of abstraction in text, making it inaccessible to large sections of the community” (Martin, 1992), but lexically dense texts are not common in primary school, as Halliday (2004, p. 636) notes:

*“Children are likely to meet the ideational type of metaphor when they reach the upper levels of primary school; but its full force will only appear when they begin to grapple with the specialized discourses of subject-based secondary education.”*

However, when one considers the gradual development of lexical density along the mode continuum, then it would be logical that a precursor of nominalisation (verbs or processes expressed as nouns) would be rank shifting (processes expressed as adjectives as part of a noun group, e.g. *the capsized boat*) and the use of more technical and formal (less colloquial) vocabulary, for example, *capsize* or *indicate*, would develop before students start to use those terms as adjectives in a noun group, such as *the capsized boat*, or as a noun, such as *indication*.

When the first twenty interviews in the current PhD study were analysed, high achieving readers used more technical or formal terms (other than that used in the reading text), for example, *drought*. Only one high achieving reader used rank shifting, *the capsized boat*, in his interview and nominalisations were only used by three students with high reading scores.

### **Conclusion**

A relationship between complexity in oral language and reading comprehension is emerging in the current research. The success of Accelerated Literacy, which involves talking about literate texts before reading them, suggests that developing oral language may be crucial to reading success. The research further consolidates the clear calls by many researchers for attention to oral language development in addressing the role of grammatical understanding in enabling students to understand structural connections within texts leading to comprehension of more complex reading material (Unsworth, 2002).

To be an effective reader, a student must take on four roles; coder, participant, user and analyst. The decoding role is not just about grapho-phonetic relationships, but an effective code breaker is someone who understands the ‘fundamental features’ of written texts (Freebody & Luke, 2003, p. 56) and grammar is one of those features. The text participant role involves understanding the ways in which written, visual and spoken texts are constructed and meanings are made, so this role also involves understanding of grammar and genre. By performing the four roles, the reader is accessing four resources which are “inter-related and interdependent” (Freebody in Healy & Honan, 2004, p. 1).

It seems logical that, when students use oral language to reflect on the meanings in texts and how texts are structured to achieve those meanings, the students are developing both their oral language repertoire and their comprehension of written language. For some low-achieving readers, the complexity of multimodal text negotiation appears to require the development of these students’ linguistic experience as well as explicit attention to the meaning-making resources of images and image/text relations. As Lemke (1988, p. 136) points out, spoken language is “the medium in which we understand and comprehend”. It follows that students need to use oral language, which is scaffolded by teachers or other adults, to improve their comprehension of written texts.

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