

Developing reading comprehension

Introduction

The 'simple view of reading', explained fully in Appendix 1 of the *Independent review of the teaching of early reading* (the Rose Report) and referenced below, identifies two dimensions to reading: word recognition and language comprehension. Comprehension is the ultimate goal of reading but this goal cannot be achieved unless children can recognise the words on the page.

This document focuses on comprehension and considers the language skills and cognitive resources that play a part in developing reading comprehension, including the important roles of inference and deduction (reasoning). It also examines how explicit teaching of certain strategies such as summarising and recognising degrees of importance can support the reader's comprehension. This document only briefly touches on teaching approaches that help develop comprehension. However, many such examples can be found in the Primary National Strategy's set of flyers on reading comprehension and in the guidance on shared and guided reading.

Reading comprehension is a highly interactive process that takes place between a reader and a text. Individual readers will bring variable levels of skills and experiences to these interactions. These include language skills, cognitive resources and world knowledge. Any act of reading occurs within a particular sociocultural and emotional context. This consists of elements such as the child's home culture, their previous experiences of reading and being read to, their expectations that reading should carry meaning, their motivation, their view of themselves as a reader, the purpose for reading the text, the cultural value placed on reading and the reading environments the reader experiences. While the purpose of this document is to concentrate on looking closely at the development of comprehension skills, this broader context and its influences should be borne in mind.

The 'simple view of reading'

The idea that reading comprehension depends on oral language skill is captured in the 'simple view of reading' discussed in Appendix 1 of the final report: *Independent review of the teaching of early reading* (March 2006). The 'simple view of reading' is shown in Figure 1.

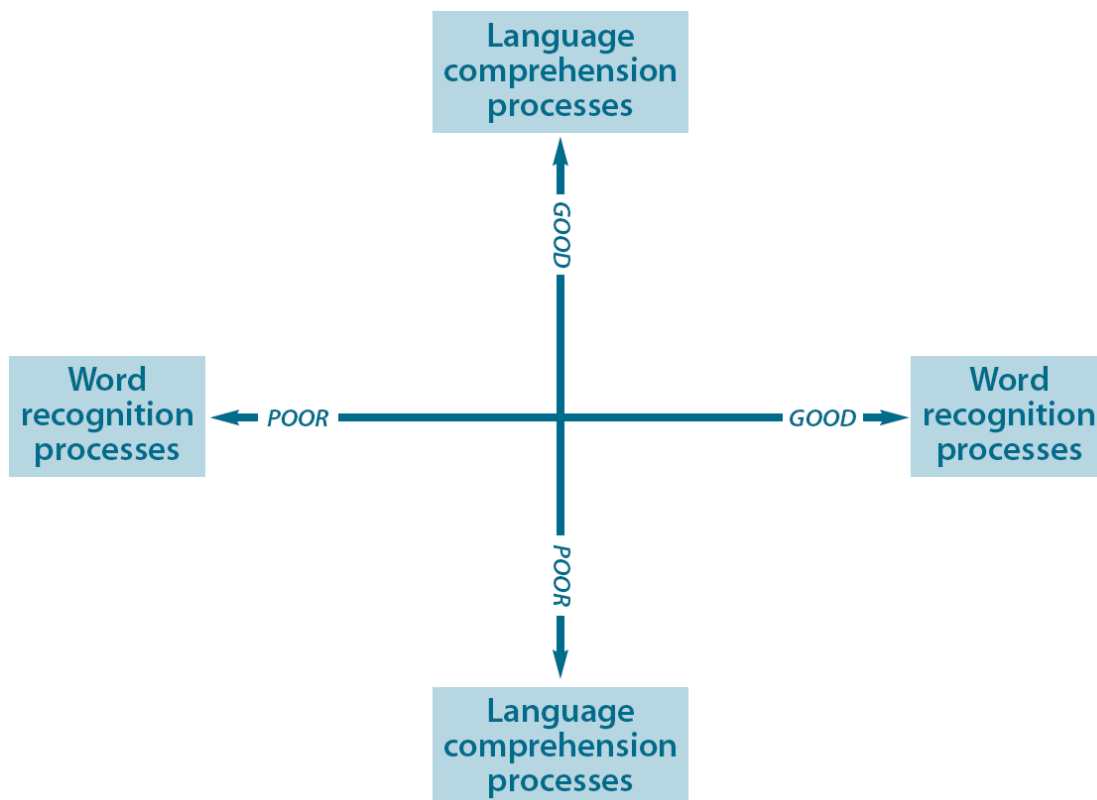


Figure 1: The 'simple view of reading'

According to this view of reading, reading comprehension is the product of word recognition skills and listening comprehension skills. Recognising (reading) the words on the page is vital to reading comprehension; if a child cannot read the words, then they will quite obviously be unable to extract meaning from the written word. Once written words are recognised they can be understood as long as they are in the child's oral vocabulary. Unfamiliar words that are not already in the child's oral vocabulary start to acquire aspects of their meaning from the context within which they have been read; that is, reading gradually becomes a major source of vocabulary development. Once the words are recognised, they can be input to the language comprehension system to understand what a writer conveys. It is well recognised that children vary in the ease with which they can decode. They also vary in their listening comprehension, and consequently in their reading comprehension. An effective reader has good word reading and good listening comprehension skills, as shown in the upper right quadrant of the figure below. Poor reading comprehension can occur with or without poor word reading, as shown in both lower quadrants of the figure (see Nation, 2005).

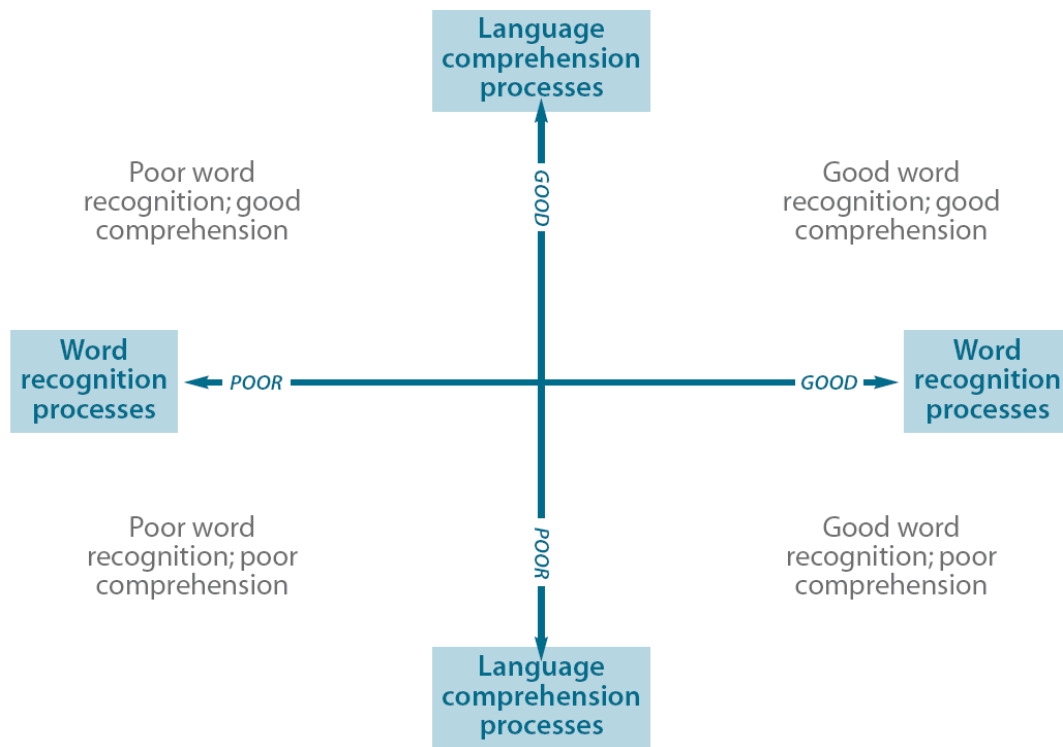


Figure 2. Different patterns of performance

From an educational viewpoint this means that practitioners and teachers must encourage the development of oral language skills in order to safeguard children's reading comprehension. They also need to encourage the development of specific strategies for reading comprehension and, importantly, they need to encourage children to practise their developing reading skills. Children need frequent opportunities to read during shared, guided and independent reading sessions.

Reading comprehension is a highly interactive process; it draws on general knowledge of vocabulary as well as on our experience of the world. This in turn enables us to increase our knowledge in these areas.

What does listening comprehension entail?

Listening comprehension (simply comprehending what you hear) is a good predictor of individual differences in reading comprehension. This is because it draws on many relevant linguistic abilities and cognitive resources. We begin by discussing the **linguistic skills** utilised by listening (and hence reading) comprehension. We will then discuss the **cognitive resources** that are required.

Linguistic skills

- vocabulary knowledge
- grammatical skills
- pragmatic abilities
- metalinguistic awareness, idioms and figurative language.

Vocabulary knowledge

Listening comprehension depends upon lexical knowledge (vocabulary). The meanings of words contribute to the meanings of sentences, which make up much of oral communication. The same skills are used during reading individual words as a foundation for text comprehension.

During the Early Years, most children extend their vocabulary at a very rapid rate, possibly adding in the order of 50 to 70 words to their vocabulary base per week. Much of this vocabulary growth occurs as the result of oral conversation. By the time children are five, it is estimated that they have an oral vocabulary of some 14,000 words. Beyond that age, oral conversation is a much less effective means of promoting vocabulary knowledge for most children (although it remains crucial for children for whom English is an additional language). This is because most conversations contain words that everyone uses and understands. The practical issues for teachers therefore are how to:

- ensure vocabulary growth continues through the school years
- narrow the vocabulary gap between children who enter school with good and with poor language (Beck and McKeown in press, 2006).

When children hear a familiar word, they automatically decode its meaning in what is known as a **semantic representation**. If a child has good vocabulary, he or she will also be able to work out the meanings of related words in a surrounding network. Therefore children with good vocabulary will be at an advantage during reading for two reasons: first, they know the meanings of the individual words they decode. Second, these words aid in explaining contexts for them, and these in turn help them to develop coherent representations of the text. Since readers can develop richer representations of texts containing familiar words, it follows that direct instruction in vocabulary will enhance reading as well as listening comprehension. Moreover, as we will see, teaching the meaning of a single word can further clarify the meaning of related words and therefore bring about additional benefits.

Take the example of a child who knows the words 'rain' and 'snow'. Each word can be defined by that child in terms of its semantic features, for example:

rain = type of weather, wet

snow = *type of weather, white.*

Let's say the child now learns the meaning of the word 'sleet':

sleet = *type of weather, wet, white.*

It will be clear that 'sleet' shares semantic features with both 'rain' and 'snow'. To avoid confusion between these semantically related words, the child must now alter the way in which he or she pictures 'rain' and 'snow'.

Hence:

rain = *type of weather, wet, not white (because it is not frozen)*

snow = *type of weather, not wet, white (because it is frozen)*

sleet = *type of weather, wet, white (because it is frozen).*

Thus, adding just one word to the child's vocabulary has enriched the semantic representation of at least two others. It can be argued therefore that the child has increased understanding of three vocabulary terms, and as a consequence, his or her semantic knowledge of weather terms has been deepened. Teaching vocabulary therefore brings benefits beyond reading comprehension to many aspects of the curriculum.

But what words should teachers teach? (And, as a related issue, how should they teach them?) Opinion is divided on this issue. Some researchers believe the focus should be on words that are partially known (by between 20 per cent and 70 per cent of the class). Others believe sophisticated words that are of high-utility should be chosen (Beck, McKeown and Kucan, 2002). Texts vary in the vocabulary they use; the vocabulary used in fiction and non-fiction differs, and vocabulary varies across written styles from the concrete to the more abstract.

There are also words that may cause particular problems for comprehension, such as:

question words (see box below)

words with more than one meaning (polysemous words, such as 'bat', 'minute')

homophones (such as 'bear' and 'bare').

It is easy to take for granted the meanings of question words. Some children find it hard to learn the distinctions between them. For such children, a possible order of teaching question forms is as follows: 'what', 'who', 'whom', 'when', 'where', 'how', 'whose', 'which', 'how many'/'how much', 'why'. Even more complex are questions that are formed syntactically, for example questions formed by inversion ('may I...?') or tag questions ('You're in a hurry, aren't you?').

For information on question forms and strategies for teaching them, see Ripley, K., Barrett, J. and Fleming, P. (2001) *Inclusion for children with speech and language impairments. Accessing the curriculum and promoting personal and social development*, David Fulton Publishers, London, pp. 73–75.

It will be clear that some of the more abstract vocabulary that children encounter (including idioms and figurative language) will require explanation for all children. It is easy, however, to forget that some children do not possess age-appropriate levels of vocabulary. Such children who fail to understand at the word-level can easily be overlooked in the classroom, especially if they can decode well. All children need vocabulary instruction and children whose levels of language are low require additional support

(<http://www.york.ac.uk/res/crl/research.html>). There are many examples of contextualised investigative teaching strategies to support vocabulary instruction.

Grammatical skills

Comprehension at the sentence level (and beyond) depends upon having good grammatical skills. **Grammar** is a system of rules that specifies the order in which words can be used in sentences (**syntax**), and how word order is used to convey meaning. Formally, grammar is made up of **morphology** as well as syntax. Morphology refers to the basic structure of words and the units of meaning (or morphemes) from which they are formed. For example, the word 'boy' is a single morpheme but the compound word 'cowboy' can be thought of as containing two morphemes, 'cow' and 'boy'. There is therefore an intimate relationship between grammar and meaning and, therefore, comprehension.

Although sentences can be both grammatical and semantically unlikely, for example 'The fish walked to the bus', we will not be concerned with such unusual examples here. More usually, the grammatical structure of a sentence is closely related to its meaning so that different grammatical forms generally take particular semantic roles in the sentence. Nouns usually refer to agents or objects whereas verbs refer to actions or feelings. In a similar vein, prepositions signify location while adjectives and adverbs are used to describe nouns and verbs respectively.

Almost all children have a grasp of simple sentence structure but more complex structures may cause difficulty through the primary school years. More complex constructions include:

- the passive voice: for example 'The window was broken by the boy.'
- embedded clauses: for example 'The girl with the red hair ran away.'
- relative clauses: for example 'The boy who delivered the news was scared.'

Successful comprehension depends upon being able to break the sentence down into verb, noun, adjective and so on. Complex constructions can therefore pose an obstacle to comprehension. In a similar vein, children need to know about pronouns and their use in order to understand who or what is being referred to both within a sentence ('He is in the car.') and across sentences ('The boy loved his puppy. He put it in the car.'). (See section on anaphora below.)

Morphological skills are also important for sentence comprehension. In English, there are relatively few compound words of the 'cowboy' type; however, words like 'camping' (camp + *-ing*) or 'camped' (camp + *-ed*) also contain two morphemes and 'decamped' contains three. **Inflections** are parts of words that cannot stand alone (e.g. *-ed*, *-ing*, *-un*) but when combined with a stem they serve a grammatical function. Verb inflections are particularly important to comprehension: they denote contrasts between, for example, past and present tense, and singular and plural forms.

In order to use context, children must be able to use grammatical clues in sentences. Children also use clues from grammatical construction to learn the meanings of new words. As with vocabulary instruction, there are many opportunities within a rich literacy curriculum to support the development of grammatical skills through contextualised, investigative and interactive teaching strategies.

Pragmatic abilities

Pragmatics is the system of language which is concerned with communication and, specifically, how language is used in context. Efficient communication depends upon the speaker and listener having certain assumptions in common, for example that the communication should be both informative and relevant to the topic under discussion. In addition it should be truthful, clear, unambiguous, economical and delivered in an orderly fashion. Violations of these assumptions include talking at length about topics not directly relevant to the present situation or using an inappropriate register, such as speaking in an overly formal manner for the context. Pragmatic failure commonly occurs when the speaker does not take into account the listener's perspective and either provides too much or too little information for them to be able to communicate well.

The relationship between pragmatic skill and comprehension is complex. Satisfactory listening comprehension depends upon sharing the same frame of reference as the speaker as well as differentiating what is relevant from what is less so. It also depends upon making inferences that go beyond the literal words uttered in order to extract the gist (as well as the detail) of the interchange. One aspect of pragmatic competence that is particularly important for reading comprehension is the ability to appreciate another person's thoughts and beliefs. This skill is usually referred to as 'mentalising' or **theory of mind**. We cannot see states of mind but we can infer them from subtle indicators present in the interaction. Theory of mind has its roots in the early years when children begin to appreciate the feelings of another person (empathise). However, more advanced understanding is required in order to appreciate communicative acts, such as joking, lying, criticism and irony. Such non-literal themes are often conveyed in stories. A child who lacks theory of mind will, therefore, be able to form only an incomplete understanding of story events. More generally, communication frequently involves looking beyond the precise information stated; it also involves understanding other relevant information that needs to be coded to understand the message being conveyed. These assumptions are often referred to as **inferences**. Inference-making can be thought of as a process of 'gap-filling'; inference-making is automatic for the skilled user of language and is important both for listening and for reading comprehension. (See section on inferences below.)

Metalinguistic awareness, idioms and figurative language

Metalinguistic awareness develops after basic linguistic competence and refers to the ability to reflect on the structure of language. It could be argued that metalinguistic awareness is required in order to understand non-literal, figurative and metaphorical use of language, as well as for reflecting on author's style and purpose.

Idioms are expressions or parts of speech that cannot be understood from the individual meanings of their elements, for example 'all mouth and no trousers'. Idioms vary from fairly obvious in meaning, such as 'hold your tongue' or 'up the creek without a paddle', to less obvious such as 'beat about the bush' or 'about face'. Some idioms are learned as whole lexical units, just as words are, but in order to fully appreciate their meaning some analysis is required.

More generally, **figurative language** departs from literal meaning in order to achieve a special effect in spoken or written language. The most common forms of figurative language are **metaphors**, for example 'a thread of understanding' or **similes**, such as 'as fast as lightning' or 'as thick as thieves'. It is standard practice to teach children about these abstract aspects of language. Such understanding builds not only upon their basic linguistic competences but also upon theory of mind and inferencing skills. (See <http://www.riddles.sussex.ac.uk/>.)

Cognitive resources

- reading comprehension
- knowledge of and engagement with texts
- the important role of inferences.

Listening comprehension is undoubtedly an attention-demanding process. The allocation of attention to different processes is critical to listening (and reading) comprehension and depends upon executive processes. As natural as listening might seem, children have to learn to listen and it follows that some children will need to be taught. This will be particularly true if they come from a background where conversation is limited or storytelling infrequent. In addition to this, some children have limited **attentional resources**, perhaps because they are preoccupied with worries or anxieties. The Qualifications and Curriculum Authority/Primary National Strategy *Speaking, listening and learning* materials and the Primary National Strategy *Social, emotional aspects of learning* materials offer teaching ideas to support these areas of development.

http://www.standards.dfes.gov.uk/primary/publications/literacy/818497/pns_speaklisten062403hbk.pdf

http://www.standards.dfes.gov.uk/primary/publications/banda/seal/pns_seal137805_guidance.pdf

A fundamental aspect of comprehension is the ability to sequence information and to understand the order of events. The skills that underlie time and sequence are not well understood. **Sequencing** is a thought process that comes to some children easily and to others not at all. Children with sequencing problems need support to understand and to follow sequences of events, both in oral language and when reading stories. There are many teaching strategies to support the development of sequencing skills, such as getting children to retell familiar routines or stories using sequencing cards or getting children to create sequential story maps (or flow diagrams for information texts) and story boards. Teachers can encourage children to recognise sequencing in other areas of the curriculum, such as ordering numbers in mathematics or working out a sequence of movement in PE.

The **working memory** system has limited capacity and therefore it is important to combine the products of comprehension processes as soon as they become available (online). For example, it is not efficient to remember either individual word or sentence meanings once these have been integrated into meaningful chunks. Such detail has to be suppressed (or inhibited) to allow new incoming material to be processed. This process is sometimes referred to as **instantiation**. In the classic example of instantiation, the reader reads a text which states explicitly that 'the swimmer was eaten by the frightening looking fish'; later the memory representation contains the single element 'shark'.

Another control process that is required to ensure good understanding is **comprehension monitoring**. Organisational processes including comprehension monitoring come into play to ensure that the language processed is coherent and makes sense. Children vary in their working memory capacity and their organisational skills; hence, there is a strong relationship between verbal working memory skills and comprehension abilities. Listening and reading comprehension also differ in the demands they place on working memory. In reading there is a permanent record that is not present when listening. A written text offers the child strategies, such as the ability to look back, that are not feasible in an oral situation.

Reading comprehension

Reading comprehension is a much less natural act than listening comprehension. Moreover, language use differs between oral and written language with a tendency for more complex forms to occur in writing.

Therefore, while reading comprehension depends on listening comprehension ability, it also requires that additional strategies be brought to bear.

In formal terms, successful reading comprehension depends on the construction of a rich and elaborate mental model of the text that is read. This is often referred to as the **situation model** (Kintsch and Rawson, 2005). The situation model can be thought of as an integrated summary of the contents of the text, which can be scrutinised in response to questioning.

The following are the steps in the construction of a situation model:

- decoding of words and sentences
- extraction of explicit meaning
- merging of topics to form a logical structure
- organisation of key topics or themes (often requiring the generation of inferences)
- what is understood as an integration of meaning elicited from text and prior knowledge that is activated as reading progresses.

There are many teaching strategies for building and activating prior knowledge before and during reading. It is clear from this perspective that reading comprehension depends on the linguistic competences we have already discussed, boosted by specific strategies for reading comprehension that are developed through reading experience.

Knowledge of and engagement with texts

In oral language, effective communication depends on pragmatic skills. There are parallels in text comprehension. In order to read for meaning, children must both understand the purpose of the activity and the goals of the author. If not they will become confused. They must have a positive attitude towards reading and be motivated to read. Such motivation is critical to the development of a personal **standard of coherence** for comprehension. In short, children must not be satisfied with incomprehension. They must be motivated enough to monitor the meaning of what they are reading and to look back with the purpose of self-correction when something does not make sense. Furthermore, comprehension will be better when there are **shared frames of reference** so that the child can identify with the story theme and form a relationship with the characters.

Knowledge of story schemas and of different written styles (genres) aids successful comprehension. **Story schemas** can be thought of as templates or protocols depicting typical story structures. At a very basic level, a story consists of a beginning (e.g. 'Once upon a time'), a middle and an end (e.g. 'They all lived happily ever after'). A more detailed story schema would include the characters and the setting, the event, its resolution and the end of the story. Well-known story schemas may depict common experiences, such as a birthday party, a trip to the zoo or a day at school. Such schemas are a kind of road map that can be used to guide comprehension processes.

In the early years, stories typically relate to familiar themes that children will have heard when read to or in oral stories. In later primary years, children need to appreciate that authors may portray events in different ways, sometimes reordering time sequences and veering from expected endings. Such appreciation depends on **print experience**: fluent readers who practise a lot (and hear lots of texts read aloud) will develop this awareness; poor readers, or children who do not read much, will be at a disadvantage. Similarly children can recognise the road maps of non-fiction texts and build a schema of typical non-fiction text structures. As with story texts, children enrich this schema by reading non-fiction texts and having non-fiction texts read to them. Research suggests that explicit discussion and teaching of story structures and information text structures supports children in developing text schemas.

The important role of inferences

Inferences are fundamental to successful reading comprehension. Research has shown that children as young as four years old can generate certain types of inferences during reading; generally these are causal in nature (e.g. what causes a physical action). Children become more adept at inference generation with age and older children tend to generate only those inferences that are necessary for text comprehension.

What is the difference between reasoning and inferencing skills?

There are some differences between reasoning and inferencing but the distinction is not clear-cut. Reasoning (including deductive reasoning) is typically a clear task that requires thinking one's way through a problem to come to a logical conclusion. It therefore requires conscious effort and strategic processing. To some extent, generating inferences can be considered a form of deductive reasoning. This is because in order to generate an inference, it is necessary to process the information available and draw a conclusion that is either logically possible or logically necessary. However, generating inferences is perhaps less constrained than other forms of reasoning. Certain types of inferences are made automatically during reading (that is to say, the reader is not necessarily conscious that they are making the inferences). On the other hand, to evaluate the validity of what has been read, or to determine whether or not you agree with it, requires reasoning skill. This is sometimes referred to as making an evaluative inference.

What kinds of inference are there?

Broadly there are two categories of inferences:

- coherence inferences
- elaborative or extending inferences.

Coherence inferences

Coherence inferences are necessary to form a consistent and intelligible mental picture of a text. They can be classified in two ways: either as those that use **cohesive devices** or as those that are **knowledge-based**.

Cohesive devices

These are commonly used to maintain textual integrity. For instance, consider the following examples:

‘John asked Pam if he could borrow some money.’

To understand this sentence, the reader would need to determine that the pronoun ‘he’ refers to ‘John’ in order to produce a complete representation of the sentence. This is known as **pronoun resolution**.

‘The ship left the harbour in a storm. The vessel lurched as a wave hit the bow.’

In order to form a meaningful and related representation of the two sentences, the reader would need to infer that ‘the ship’ referred to in the first sentence was the same object as ‘the vessel’ referred to in the second sentence. This is known as **anaphoric reference**: the vessel refers to the same thing as the ship. As such, **anaphora** is used to aid in the construction of a situation model.

Thus, cohesive devices can be used to resolve incongruities or ambiguities in a text, and aid in the construction of a coherent representation. Whether or not the use of these types of cohesive device can be classed as a form of inference generation is not without dispute. However, there is clearly some interdependence between the use of cohesive devices and more basic grammatical competence; it follows that children who have difficulty in working out the referents of different words in a sentence will find texts containing anaphoric reference difficult to comprehend.

Knowledge-based inferences

These are commonly used to bridge a gap in the text by applying real-world knowledge to the explicit information that is given. Such inferences form a link between the ideas that are clearly stated and those that are left implicit. They are also frequently termed **bridging inferences**. The most commonly studied bridging inference is that which is generated to explain the cause of an event. For example, consider the following text: ‘The campfire started to burn uncontrollably. Tom grabbed a bucket of water.’

In order to understand why ‘Tom grabbed a bucket of water’, it is necessary to relate the second sentence to the first, ‘The campfire started to burn uncontrollably’. Readers generate the inference that Tom was trying to put the campfire out. To do this it is necessary to first activate the mediating idea that ‘water puts out fire’ from real-world knowledge. Without generating this inference the two sentences remain disjointed and do not form a coherent whole. In this example, therefore, knowledge of the real world is used to forge a link between the two explicit sentences by generating an explanation of Tom’s actions. The explanation is left implicit in the text itself.

Causal bridges are the most widely recognised type of knowledge-based inference consistently included in a reader's text representation. However, other types of bridging inference include:

- temporal inferences (requiring the relative timing of actions to be inferred)
- emotional inferences (requiring inferences to be made about characters' feelings and emotions)
- spatial inferences (requiring inferences concerning the spatial location of the objects and agents involved).

It should be noted that coherence can be maintained both locally, i.e. across sentences that are close together in a passage, and globally, i.e. across the passage as a whole. The examples given so far are concerned with local coherence. However, global coherence is vital if the reader is to understand the meaning of the passage in its entirety and not just isolated parts of the passage.

Elaborative (or extending) inferences

Elaborative inferences differ from cohesive inferences. Although elaborative inferences are not required for textual coherence, they serve to enrich the mental representation of the text and therefore make it more memorable.

Elaborative inferences are generally knowledge-based. They include inferences about the consequences of an action, predictions about forthcoming events, speculations regarding the instrument used to perform an action and suppositions about the physical properties of characters and objects. By way of illustration, consider the following passage:

'The knight lunged towards the dragon and pierced his shining scales. The dragon turned towards the knight and let out a fiery roar.'

It is possible to make many elaborations from this short passage. It could be inferred that the knight attacked the dragon with a sword because that is the usual tool of the knight and is implied by the verb 'pierced'. However, this is not necessarily the case since the knight could have been using any other sharp object had he not been in possession of his sword. Furthermore, it could be assumed that the knight was wounded by the dragon's fiery breath. However, it may be the case that the knight was able to avoid the dragon's attack. Although these elaborations enrich the model of the text, none of them is necessary in order to form a full and intelligible representation. As such, a clear distinction can be drawn between these and the more necessary inferences required for logical understanding.

The preceding discussion makes clear that inferencing is an active process that requires engagement with the text. Inferencing requires children to direct attention to the meaning of what they are reading. Some children have difficulty allocating attention in this way. This could be for a number of reasons: for some children, basic reading is still such an effort that little processing capacity is left free for comprehension; other children fail to engage with the text, perhaps because they are poorly motivated with regard to the content of what they are reading (indeed, most people have had the experience of reading a section of text without following it, particularly when tired). Finally, some children may have more significant limitations both in sustained attention and executive control processes (see <http://www.cafamily.org.uk/>).

During shared and guided reading sessions, teachers can model and discuss the inferential processes employed by skilled readers. They can encourage children to reflect explicitly on inferences during independent and individual reading sessions.

For more information regarding inference types and the two main theories of inference generation, see:

Graesser, A., Singer, M. and Trabasso, T. (1994) 'Constructing inferences during text comprehension', *Psychological Review*, 101 (3), pp. 371–395

McKoon, G. and Ratcliff, R. (1992) 'Inference during reading', *Psychological Review*, 99 (3), pp. 440–466

Comprehension strategies

According to the USA National Reading Panel's (2000) report on the teaching of reading, five strategies should be taught to ensure good reading comprehension. These are: **prediction, questioning, clarifying, imagining** and **summarisation**. To varying extents, these skills draw upon linguistic and cognitive resources. In concert they can be used to ensure that children are able to build coherent mental models of the texts they read.

Prediction

It could be argued that the ability to predict what a text entails is the first step to successful comprehension. A reader obtains the first clues to what a text is about via its title. Together with the opening sentences this can help the reader decide if the text is appropriate to their purpose (in the case of non-fiction) or to activate a story schema (in the case of fiction). The good reader then actively looks for cues to enrich their mental model of the text as reading proceeds. In turn, the developing representation of the text can be used to set up **expectancies** at the word, sentence and text levels. This will facilitate reading fluency and deepen understanding.

Questioning and clarifying

An actively engaged reader can use **self-questioning** to monitor their reading comprehension and to help clarify points that they fail to understand. Closely related to this is the use of the look back strategy to find information that is needed to resolve ambiguities. A successful comprehender knows how to generate pertinent questions, and can fall back on their mental model of the text to know where to locate relevant information.

Imagining

Imagining refers to the use of **mental imagery** to enhance text comprehension by enriching the mental model of a text. Many successful comprehenders translate the story they are reading into a series of images, almost like a film that can be replayed during story recall. Children who do not do this spontaneously can be taught to use the strategy to incorporate the details of what they read around a central theme.

Summarisation

The process of **summarisation** is perhaps most closely allied to the development of the situation model. Summarisation involves the extraction of the gist and main themes of what is read (while putting aside the irrelevant details), and integrating the details into a coherent whole. Additional processes may include the evaluation of style and mood and making generalisations. Summarisation depends on basic language skills, inferential abilities and knowledge and engagement with texts.

Reciprocal teaching (Brown and Palinscar, 1985) is a classic method for teaching reading comprehension strategies. Children are first shown how to apply the strategies by their teacher who models the process. Children then read a piece of text, paragraph by paragraph, and they learn to practise the strategies of:

- generating questions
- summarising
- attempting to clarify word meanings or confusing text, and
- predicting what will happen in the next paragraph.

The teacher supports the student while they practise, giving feedback and additional modelling (guiding) as necessary. Gradually it is intended that the guided practice becomes a dialogue in which groups of students work together with a text, asking questions of one another, commenting on answers, summarising and improving the summary. In a similar vein, activities can include helping one another to infer the meaning of a word or to reason about story events.

Why do some children have reading comprehension difficulties?

There are three main reasons why children will fail to progress in reading comprehension:

- inefficient word-level reading skills
- poor oral language skills
- lack of print experience and/or negative attitudes to reading.

When trying to understand a particular child's difficulty, teachers should ask themselves a simple set of questions, as follows. Is the child able to:

- read the text at the independent or easy level
- complete the task when listening but not when reading
- understand and follow the instructions given
- complete the task at a more simple level or with an easier text
- demonstrate a concept or strategy but not be able to explain it adequately
- complete part of the task but not be able to orchestrate a final full answer
- complete the task at a slower rate
- complete the task when provided with a model or supported step by step
- detect where an error has been made?

Note: 'task' is used in the above list to cover a wide range of possibilities, from understanding a simple set of instructions to understanding a complex theme running through a novel. It does not imply only comprehension exercises.

More specifically, in order to set up teaching targets, the following set of questions should be applied.

- Which part of the task is the child not able to complete accurately?
- What are the small steps needed to complete the task: can the child complete any of the steps?
- What vocabulary might the child need to complete the task: has the child got the appropriate vocabulary?

Teachers then need to match teaching strategies to identified areas for development. For example, a child who is failing to recognise another person's feelings in the text could be supported by completing an emotions graph for the character. In this way children can be encouraged to acquire a range of known comprehension building strategies that they can then apply when they experience a failure in comprehension. This supports them in becoming strategic and intentional learners.

The nature of the text may also affect children's comprehension.

- Is it too dense?
- Are there too many unknown or difficult words?
- Is the author's style accessible?
- Is the genre familiar?

More specific causes of reading comprehension failure follow from an understanding of the cognitive and experiential prerequisites of progression through the literacy framework. These are detailed in *Progression in comprehension*.

References and further reading

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