

The relevance of discourse analysis to the teaching and learning of *te reo Māori*:

A text-centred example

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Abstract

In this paper, I analyse a single text written in *te reo Māori* in terms of two different approaches derived from discourse analysis (discourse macro-patterning and discourse relations and their signalling) in order to demonstrate the importance of deriving a discourse-centred methodology for teaching learners of Māori what is involved in interpreting and creating coherent discourses.

Introduction

The extent to which students of *te reo Māori* are able to control language at a level that allows them to produce coherent and well-structured texts is something in which I, as a tertiary teacher of *te reo Māori*, have a particular interest. Until comparatively recently, the teaching of English and the teaching of Māori were conducted in very similar ways, focusing primarily on the production of grammatically correct clauses and sentences. More recently, English teaching has become more ‘communicative’, encouraging learners to engage in authentic communicative interaction (Nunan, 1991) and acknowledging the fact that this means that they need to develop the capacity to understand and create coherent discourses of different kinds. In the case of *te reo Māori*, however, teaching still appears to either (a) largely focus on clause and sentence level language, or (b) include larger stretches of language without any real attempt to make learners fully aware of the processes involved in understanding and creating them. For this reason, many learners of *te reo Māori* have great difficulty in understanding and producing coherent texts. Their ability to piece together the relatively small chunks of language that they are familiar with in order to produce well-sequenced and meaningful discourses is hampered by a lack of understanding of the processes involved in discourse comprehension and construction. In order for language learners to become fully proficient in their target language, they should ideally be exposed to teaching methodologies that take account of both micro-level and macro-level knowledge and understanding, that is, knowledge and understanding of what is involved in interpreting and creating clauses and sentences, and knowledge and understanding of what is involved in interpreting and creating extended discourses.

Brown and Yule (1983, p.1) note that “[while] the formal approach has a long tradition, manifested in innumerable volumes of grammar, the functional approach [focusing on the functions performed within a discourse by text segments] is less well documented”. Even so, there is a considerable body of research-based information that relates to the interpretation and creation of extended discourses in English. There is also a growing body of research that could inform appropriate pedagogies for the teaching and learning of strategies for comprehending and creating coherent discourses in *te reo Māori*. In this article, I analyse one text in *te reo Māori* from two different perspectives (discourse macro-patterning and discourse relations and their

signalling) in order to demonstrate the relevance of this type of analysis to the teaching and learning of *te reo Māori*.

Literature review

There is a growing understanding within applied linguistics that the notion of communicative competence is multi-layered and that the ability to produce and interpret extended discourses depends on the application and interaction of a range of different types of linguistic knowledge (see, for example, Council of Europe, 2001; Savignon, 1997; 2001). The focus here is on two different, but related aspects of discourse interpretation and creation: discourse macro-patterning (the overall construction of texts), and discourse relations (the different types of meaning that link different parts of a text together) and their signalling (the ways in which these different meaning relations can be signalled or signposted). Discourse relations make a text *coherent* by linking the parts of a text together semantically (in terms of meaning); discourse relational signalling reinforces that coherence by the use of *cohesive devices* that link the parts of a text together lexically and grammatically. I include both macro-patterning and discourse relations and their signalling here in order to avoid giving the impression that it is sufficient to focus on one aspect only of discourse comprehension and construction. As Paltridge (1994, p. 69) observes, “applications of the analysis of discourse structures in language teaching and learning materials have, generally, mostly only focused on individual aspects of discourse structure”.

Discourse macro-patterning

Discourse macro-patterning (global discourse structuring), that is, the overall organisation or structuring of discourses, has been investigated in relation to English by, among others, van Dijk (1982) and Hoey (1983; 1991). The approach adopted by Hoey involves classifying and labelling sections of text in terms of the overall function they perform in the text as a whole. Three typical macro-patterns identified by Hoey are *Problem-Solution*, *Matching* and *General-Particular*. The *Problem-Solution* macro-pattern has obligatory components and optional components, the latter being indicated by brackets: (*Situation*), *Problem*, *Solution*, (*Evaluation of solution*). The *Matching* macro-pattern has at least two segments, the second one being in a comparative or contrastive relationship with the first. The *General-Particular* macro-pattern occurs in three main forms: *Generalization - Exemplification*; *Topic - Restriction* and/or *Illustration*; and *Preview - Details*. In the case of all of these macro-patterns, each component may occur more than once and the overall pattern can be varied by reordering, addition and conflation of components. Finally, there is a *Mixed* macro-pattern in which two or more of the other three macro-patterns may be combined. I have selected a text that exhibits a *Mixed* macro-pattern because this is the most common type and because, as Quinn (1993, p. 33) notes, real-life texts “are more diverse and complex than the existing limited (or finite) range of models would suggest”. Although Quinn is referring specifically to academic texts here, the same could be said of other texts. He suggests that students should be “successively taught the elements which constitute such texts and . . . actively taught to blend and write their own hybrids in appropriate contexts” (p. 43). Houia-Roberts (2003; 2004) has explored a range of authentic Māori texts in terms of the occurrence of particular macro-patterns and macro-pattern combinations.

McCarthy (1991, p.61) notes that students whose overall language competence is poor may organise their texts poorly because they “often get trapped in the difficulties of

local encoding”. It is therefore important not only to take account of discourse macro-patterning (the overall organization of texts) but also of lower (more local) levels of discourse organization, including discourse relations and discourse relational signalling.

Discourse relations and discourse relational signalling

Discourse relations (relationships that link parts of a text together in terms of meaning) account for the fact that texts are perceived as being *coherent* (that is, that they are perceived as making sense); *discourse relational signalling* (that is, the lexical and grammatical devices that signal the presence of discourse relations) make a text *cohesive*, that is, they link the parts of a text grammatically and lexically. Parts of a text can be *coherent* (that is, can make sense because of the presence of particular discourse relations) without being *cohesive* (that is, without the discourse relations being signalled by lexical and grammatical devices). In Example (1) below, the two sentences are linked by a discourse relation of *Reason-Result*; in Example (2) below, there is one sentence with two clauses, the presence of the relationship of *Reason-Result* being signalled by the word ‘because’, a subordinating conjunction that operates as a cohesive device, signalling the presence of a relationship of *Reason-Result*.

- (1) It was a very warm day. Nearly everyone was wearing summer clothing.
- (2) *Because* it was a very warm day, nearly everyone was wearing summer clothing.

McCarthy and Carter (1994, p. 54) note that “to make sense of a text, one of the tasks facing the reader is to comprehend the connections between its various elements”, and McCarthy (1991, p. 28) observes that “the interpretation of relations between textual segments is a cognitive act on the part of the reader, who might be supposed to be asking questions of the text as it unfolds”. Cohesive devices help us to make sense of texts by making the connections between textual segments overt. This is not to say that a text without cohesive devices is incoherent. Meaning relations in a text are often inferred rather than explicitly signalled (see example (1) above). However, an awareness of cohesive devices, that is, of those grammatical and lexical devices that signal or signpost meaning relationships of various kinds, can be of great assistance, particularly to second language learners. Once they have begun, in reading and interpreting texts, to make effective use of the clues that cohesive devices provide, learners can begin to use them in their own writing. They can also begin to develop an awareness of discourse relations that are not signalled.

Discourse relations (also referred to as ‘semantic relations’, ‘semantico-pragmatic relations’ and ‘inter-propositional relations’) have been examined with reference to a wide range of languages. For example, the research of Longacre (1972; 1996) has focused on Philippine languages, that of Hollenbach (1975) and Crombie (1985) has focused on English, and that of Houia (2001), Houia-Roberts (2003) and, in particular, Whaanga (2006) has focused on *te reo Māori*. Whaanga argues that because discourse relations concern the ways in which human beings make sense of connections between things and events, the same discourse relations are likely to be found in all human languages. He proposes (pp. 207-208) the following discourse relations and discourse relational types:

Temporal relations: Temporal Sequence and Temporal Overlap

<i>Additive relations:</i>	Bonding
<i>Associative relations:</i>	Paraphrase; Statement-Affirmation; Simple Comparison; Exemplification; Simple Contrast; Statement-Denial; Denial-Correction; Exception; General-Particular; Supplementary Alternation; Contrastive Alternation
<i>Causal relations:</i>	Reason-Result; Grounds-Conclusion; Means-Result; Means-Purpose; Realisable Condition; Unrealisable Condition; Concession-Contraexpectation

A considerable amount of research has been conducted with reference to discourse relational signalling (cohesive devices) in English. This includes the work of Winter (1974), Crombie (1985), Halliday and Hasan (1976), Martin (1992) and Knott (1996). Halliday and Hasan focus on the *linguistic resources* (grammatical and lexical) through which clauses and sentences in English are linked, identifying various types of 'cohesive tie', grammatical and lexical. Lexical cohesive devices may involve, for example, lexical repetition, synonyms, antonyms, superordinates and hyponyms (e.g., girl/ girl; climb/ascend; up/down; furniture/chair); grammatical cohesive devices may involve, for example, co-ordinating or subordinating conjunctions (e.g., but; because; although), ellipsis and substitution. Cohesive devices in Māori have been explored (with particular referenced to their interaction with discourse relations) by Houia (2001) and Whaanga (2006).

The signalling or signposting of discourse relations can take a variety of forms, some types of signalling being more explicit than others in terms of the actual relationship involved. Thus, for example, 'but' in English and 'engari' in Māori are general purpose signallers. They indicate the presence of a contrastive relationship of some kind but not the specific contrastive relationship involved. On the other hand, 'although' in English and 'ahakoa' in Māori signal the presence of a relationship of the specific discourse relation of Concession-Contraexpectation.

The analysed text

The text analysed here is *He kaitiaki pūngāwerewere ahau* (Walker, 1995, pp. ?). It is included in the *Ngā Kōrero* journal series, produced as a Māori language resource for schools and is a translation of a 1986 school journal article in English entitled *I Keep Spiders* by June Walker Leonard (1986, pp, 12-18). This text was chosen for a number of reasons.

First, although it is intended for learners of Māori with an intermediate level of proficiency, it contains some unusual grammatical patterning, something that is particularly noticeable in the opening paragraph with the occurrence of the following sentence: *Noho ai ngā pūngāwerewere i ahau e tiaki ana i tētehi pounamu pata pinati*, a literal translation of the English sentence *I keep spiders in an old peanut butter jar*. A more natural translation of this sentence would have been *Ka tiaki pūngāwerewere ahau i roto i tētehi pounamu pata pinati*. The fact that the text contains sentences that are structured in a way that is unusual in Māori means that readers, in making sense of the text, need to engage high level cognitive processing.

Secondly, in *He kaitiaki pūngāwerewere ahau*, the same discourse relations occur on several different occasions and so learners have an opportunity to compare the parts of

the text where these relations occur and to determine whether the same relation is signalled in the same way on each different occurrence.

Finally, the overall organization of the text, although it is of *Mixed* type (including both a *General-Particular* and a *Problem-Solution* macro-pattern), has a relatively straightforward structure, something that is useful in the initial stages of introducing learners to text structuring. The text, in English and *te reo Māori*, is provided in *Table 1* below.

Table 1: He kaitiaki pūngāwerewere ahau - I keep spiders

<p><i>Noho ai ngā pūngāwerewere i ahau e tiaki ana i tētehi pounamu pata pinati.</i></p>	<p>I keep spiders in an old peanut butter jar.</p>
<p><i>I tīmata tēnei mai i taku kitenga i tētehi whaea pūngāwerewere me ōna hua, i waenganui i ngā otaota o taku māra.</i></p>	<p>It all started when I found a mother spider and three egg sacs in my garden.</p>
<p><i>Ko taku whakaaro tonu i taua wā, anei kē tētehi mahi ātaahua rawa, ko te tiaki pūngāwerewere. Otirā, he pīrangī nōku kia kite i te āhua o te tiaki a te mama i āna hua me te paopao mai o ngā punua.</i></p>	<p>“Now’s my chance to keep spiders”, I thought. I wanted to see how the mother looked after her eggs. I wanted to see spiderlings hatch out of sacs, too.</p>
<p><i>I purua e ahau te whaea me ana hua ki roto i tētehi pounamu nui. Ā, ka purua atu hoki he oneone, he otaota, kātahi ka taupokina. Ka whakapiria atu he tatari waea ki runga i te taupoki, kia pai ai te uru atu o te hau.</i></p>	<p>I put the mother and her eggs sacs in a big peanut butter jar. I put them in there with some dirt and some of the weeds I’d found my spider on. Then I screwed on the lid, so that air could get into the jar through the holes in the mesh.</p>
<p><i>Ko te mahi tuatahi a taku pūngāwerewere he oma atu, ki te titiro ki ana hua. Ka tārewa mai ia i raro i tēnā hua, i tēnā hua. Ka tīmata ia ki te pātōtō i ngā hua ki ana waewae me ana pae ngutu, kia mōhio ai ia e pai ana rātou. Kātahi ia ka huna atu ki tētehi pokorua, ka whakatā. I te pango rawa o te pūngāwerewere, kore rawa ia e kitea atu.</i></p>	<p>The first thing my spider did was run up to check her egg sacs. She hung underneath each egg sac in turn. She felt them with her legs, and tapped them with the palps beside her mouth, to make sure they were safe and sound. Then she hid in a hole in the dirt for a rest. I could hardly see her then, because she was black and well hidden.</p>
<p><i>Nō te mutunga rā anō o te wiki tuatahi, kātahi anō taku mōkai ka huri ki te mahi whare tukutuku hei hopuhopu ngaro. Nō whea hoki e mau, kei roto kē ia i tāna pounamu, kāore kau ana he ngaro o roto. Nā reira au ka harihari atu i ngā ngaro mate, o ētehi atu whare pūngāwerewere, ka whakatakoto atu ki mua i a ia.</i></p>	<p>It wasn’t until the end of the first week that my spider made a web to catch flies in. Inside that jar, of course, she would never catch anything. So, to feed her, I had to take dead flies from other spider’s webs, and put them on her web.</p>
<p><i>Kāore ia i tika rawa mai ki aua ngaro, he uaua te kitea atu i te mea, kāore aua ngaro i porotaitaka, kāore i oreore, kāore i kukume i te whare tukutuku, pēnei nei kua mau. Heoi anō, nō tana haerenga atu ki te tiroiro i ana hua, i tūpono ki tētehi ngaro, ka kainga ake.</i></p>	<p>My spider took a while to find the flies, because they didn’t move about and pull on her web like a fly that had just been caught. But when she was out checking her egg sacs, she would suddenly stumble on a fly, and eat it.</p>
<p><i>I te tuatahi ko tāna mahi he oma atu ki te huna i ngā wā ka puarehia e au te pounamu ki te whāngai i a ia. Nāwai, ā, ka taunga ia ki ahau. Heoi anō, ka noho noa iho.</i></p>	<p>At first, my spider would run and hide whenever I opened the lid to feed her. She soon got used to me, though. Then she just sat where she was.</p>

Table 1 (continued): He kaitiaki pūngāwerewere ahau - I keep spiders

<p><i>Manawapā rawa atu ia ki te tiaki i ana hua, he nui hoki ana haerenga atu ki te tiroiro. Nō te takanga o ngā rā, ka huri te tae o ngā hua atu i te tiro mā ki te pūmā whereo, ā, i reira ka kitea atu ngā kōtingotingo pango o roto. Mōhio tonu au, kua tata ngā punua te paopao mai i roto.</i></p> <p><i>Nō te ekega o ngā marama e rua mai i te wā i hopuna e au te pūngāwerewere rā, i tīmata mai te pipi o ngā punua. Kātahi te rā harikoa rawa atu! Nō taku manawanui i toa ai taku whakarauora i te whaea me ana hua. Ko te mahamaha o ngā punua kei ahau ināianei.</i></p> <p><i>Kātahi rātou ka whakapōkaikai, ka karamuimui he rite tonu rātou ki te pōkai pī. E rua rā ki muri, ka tīmata tā rātou parore i te whenua, he torotoro i tō rātou kāinga atu i tētehi pito, atu i tētehi pito, ko te pounamu anake tō rātou kāinga.</i></p> <p><i>I tētehi rā, ka haere ahau ki taku ruma, ka kitea e au ngā pūngāwerewere e ngokīngoki ana i runga i te taupoki, kua puta mai hoki rātou i te pounamu. Kua mōhio nei rātou ki te koropēpeke kia puta ai ō rātou tinana mā ngā pokapoka o te taupoki. Ko taku haringa tērā i te pounamu ki waho.</i></p> <p><i>I reira ka tīmata ngā punua ki te whatu i ō rātou aho, atu i te taupoki ki raro rā anō ki te oneone. Heke takitahi iho ana rātou ki raro ngokīngoki ai, me te pupuri tonu ki ngā miro. Ka pupu ake te aroha i tā rātou haerenga atu.</i></p> <p><i>Kotahi wiki i muri mai, ka haria atu te pounamu ki roto i te whare. I te rā tonu o muri, ka kitea te whaea kua tīmata tāna whatu i tana kōpaki hua hou. Ka hari anō ahau. Tērā pea e puta mai anō he punua pūngāwerewere hou.</i></p>	<p>She took very good care of her egg sacs, checking them several times each day. And as the days passed, the colour of the egg sacs changed. At first, they were pure white. Then they turned pinky white, and then they looked as if they had black dots inside. I knew that the spiderlings must be hatching out of their eggs inside the sac.</p> <p>Two months after I'd first captured them, the spiderlings began coming out of the sacs. It was a big day for me. I'd managed to keep the mother and her eggs alive. Now I had hundreds of brown baby spiderlings.</p> <p>They clung together in a ball and crawled over each other like bees in a hive. After two days, they started to wander about and explore their world . . . the jar.</p> <p>One day, I went into my room and found twenty or thirty spiderlings crawling about outside, on top of the lid of the jar. They had squeezed through the holes in the wire mesh. I put the jar outside.</p> <p>There, the spiderlings spun threads that stretched from the lid to the ground. One by one they left the jar, crawling slowly down the threads. I was sorry to see them go so quickly.</p> <p>One week later, I took the jar inside again. And the next day I discovered that the mother spider was spinning another egg sac. I was pleased. It meant that I would have another chance to watch baby spiders.</p>
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The analyses

In each of the following two sub-sections, *He kaitiaki pūngāwerewere ahau* is analysed using a different analytical approach.

Analysis in terms of discourse macro-patterning

He kaitiaki pūngāwerewere ahau exhibits a mixed macropattern that combines General-Particular and Problem-Solution. The overarching organisation, or macro-patterning, of the text is that of General-Particular, the first sentence providing a Preview and the remainder of the text providing Details. Within the Details section, there are further Preview-Details sections (conforming to the overall General-Particular pattern) as well as text segments that indicate simultaneous Problem-Solution patterning.

Table 2: Macro-patterning in *He kaitiaki pūngāwerewere ahau*

General-Particular		He kaitiaki pūngāwerewere ahau	Problem-Solution
Preview	<p>Preview</p> <p>Details</p> <p>Preview</p> <p>Details</p> <p>Details</p> <p>Preview</p> <p>Details</p> <p>Preview</p> <p>Details</p>	<p>Noho ai ngā pūngāwerewere i ahau e tiaki ana i tētehi pounamu pata pinati.</p> <p>I tīmata tēnei mai i taku kitenga i tētehi whaea pūngāwerewere me ōna hua, i waenganui i ngā otaota o taku māra.</p> <p>Ko taku whakaaro tonu i taua wā, anei kē tētehi mahi ātaahua rawa, ko te tiaki pūngāwerewere. Otirā, he pīrangi nōku kia kite i te āhua o te tiaki a te mama i āna hua me te paopao mai o ngā punua.</p> <p>I purua e ahau te whaea me ana hua ki roto i tētehi pounamu nui. Ā, ka purua atu hoki he oneone, he otaota, kātahi ka taupokina. Ka whakapiria atu he tatari waea ki runga i te taupoki, kia pai ai te uru atu o te hau.</p> <p>Ko te mahi tuatahi a taku pūngāwerewere he oma atu, ki te titiro ki ana hua. Ka tārewa mai ia i raro i tēnā hua, i tēnā hua. Ka tīmata ia ki te pātōtō i ngā hua ki ana waewae me ana pae ngutu, kia mōhio ai ia e pai ana rātou. Kātahi ia ka huna atu ki tētehi pokorua, ka whakatā. I te pango rawa o te pūngāwerewere, kore rawa ia e kitea atu.</p> <p>Nō te mutunga rā anō o te wiki tuatahi, kātahi anō taku mōkai ka huri ki te mahi whare tukutuku hei hopuhopu ngaro. Nō whea hoki e mau, kei roto kē ia i tāna pounamu, kāore kau ana he ngaro o roto. Nā reira au ka harihari atu i ngā ngaro mate, o ētehi atu whare pūngāwerewere, ka whakatakoto atu ki mua i a ia.</p> <p>Kāore ia i tika rawa mai ki aua ngaro, he uaua te kitea atu i te mea, kāore aua ngaro i porotaitaka, kāore i oreore, kāore i kukume i te whare tukutuku, pēnei nei kua mau. Heoi anō, nō tana haerenga atu ki te tiroiro i ana hua, i tūpono ki tētehi ngaro, ka kainga ake.</p> <p>I te tuatahi ko tāna mahi he oma atu ki te huna i ngā wā ka puarehia e au te pounamu ki te whāngai i a ia. Nāwai, ā, ka taunga ia ki ahau. Heoi anō, ka noho noa iho.</p> <p>Manawapā rawa atu ia ki te tiaki i ana hua, he nui hoki ana haerenga atu ki te tiroiro. Nō te takanga o ngā rā, ka huri te tae o ngā hua atu i te tiro mā ki te pūmā whero, ā, i reira ka kitea atu ngā kōtingotīngo pango o roto. Mōhio tonu au, kua tata ngā punua te paopao mai i roto.</p> <p>Nō te ekenge o ngā marama e rua mai i te wā i hopuna e au te pūngāwerewere rā, i tīmata mai te pipi o ngā punua. Kātahi te rā harikoa rawa atu! Nō taku manawanui i toa ai taku whakarauora i te whaea me ana hua. Ko te mahamaha o ngā punua kei ahau ināianei.</p> <p>Kātahi rātou ka whakapōkaikai, ka karamuimui he rite tonu rātou ki te pōkai pī. E rua rā ki muri, ka tīmata tā rātou parore i te whenua, he torotoro i tō rātou kāinga atu i tētehi pito, atu i tētehi pito, ko te pounamu anake tō rātou kāinga.</p> <p>I tētehi rā, ka haere ahau ki taku rūma, ka kitea e au ngā pūngāwerewere e ngokingoki ana i runga i te taupoki, kua puta mai hoki rātou i te pounamu. Kua mōhio nei rātou ki te koropēpeke kia puta ai ō rātou tinana mā ngā pokapoka o te taupoki. Ko taku haringa tērā i te pounamu ki waho.</p> <p>I reira ka tīmata ngā punua ki te whatu i ō rātou aho, atu i te taupoki ki raro rā anō ki te oneone. Heke takitahi iho ana rātou ki raro ngokingoki ai, me te pupuri tonu ki ngā miro. Ka pupu ake te aroha i tā rātou haerenga atu.</p> <p>Kotahi wiki i muri mai, ka haria atu te pounamu ki roto i te whare. I te rā tonu o muri, ka kitea te whaea kua tīmata tāna whatu i tana kōpaki hua hou. Ka hari anō ahau. Tērā pea e puta mai anō he punua pūngāwerewere hou.</p>	<p>Problem</p> <p>Solution</p> <p>Situation</p> <p>Problem</p> <p>Solution</p> <p>Evaluation (of solution/response)</p> <p>Situation/Problem Solution</p>

Now let's look at each of the patterns in turn. The overall pattern involves a *Preview* (the first sentence of the text – *Noho ai ngā pūngāwerewere i ahau e tiaki ana i tētehi pounamu pata pinati*/ I keep spiders in an old peanut butter jar – followed by *Details* (the remainder of the text).

The other sections involving *Preview* and *Details* are:

I purua e ahau te whaea me ana hua ki roto i tētehi pounamu nui. **Preview**
Ā, ka purua atu hoki he oneone, he otaota, kātahi ka taupokina. Ka whakapiria **Details**
atu he tatari waea ki runga i te taupoki, kia pai ai te uru atu o te hau.

I put the mother and her egg sacs in a big peanut butter jar. **Preview**
 I put them in there with some dirt and some of the weeds I'd found my spider on. **Details**
 Then I screwed on the lid, so that air could get into the jar through the holes in the mesh.

Ko te mahi tuatahi a taku pūngāwerewere he oma atu, ki te titiro ki ana hua. **Preview**
Ka tārewa mai ia i raro i tēnā hua, i tēnā hua. Ka tīmata ia ki te pātōtō i ngā **Details**
hua ki ana waewae me ana pae ngutu, kia mōhio ai ia e pai ana rātou.

The first thing my spider did was run up to check her egg sacs. **Preview**
 She hung underneath each egg sac in turn. She felt them with her legs, and **Details**
 tapped them with the palps beside her mouth, to make sure they were safe and sound.

Manawapā rawa atu ia ki te tiaki i ana hua, **Preview**
he nui hoki ana haerenga atu ki te tiroiro. **Details**
 She took very good care of her egg sacs, **Preview**
 checking them several times each day. **Details**

Nō te takanga o ngā rā, ka huri te tae o ngā hua **Preview**
atu i te tiro mā ki te pūmā whero, ā, i reira ka kitea atu ngā kōtingotingo pango o **Details**
roto.

as the days passed, the colour of the egg sacs changed. **Preview**
 At first, they were pure white. Then they turned pinky white, and then they **Details**
 looked as if they had black dots inside.

Heke takitahi iho ana rātou ki raro **Preview**
ngokingoki ai, me te pupuri tonu ki ngā miro. **Details**
 One by one they left the jar, **Preview**
 crawling slowly down the threads **Details**

Notice that the *Preview* sections generally state what happened and the *Details* sections generally state how it happened.

There are two examples of the *Problem-Solution* pattern: The first example has four parts: *Situation – Problem – Solution* (i.e., response to the problem) – *Evaluation (of the solution)*. The second example has three parts: *Situation and Problem (combined)* and *Solution*.

Nō te mutunga rā anō o te wiki tuatahi, kātahi anō taku mōkai ka huri ki te mahi **Situation**
whare tukutuku hei hopuhopu ngaro.

Nō whea hoki e mau, kei roto kē ia i tāna pounamu, kāore kau ana he ngaro o **Problem**
roto.

Nā reira au ka harihari atu i ngā ngaro mate, o ētehi atu whare pūngāwerewere, **Solution**
ka whakatakoto atu ki mua i a ia.

Kāore ia i tika rawa mai ki aua ngaro, he uaua te kitea atu i te mea, kāore aua **Evaluation**

ngaro i porotaitaka, kāore i oreore, kāore i kukume i te whare tukutuku, pēnei nei kua mau. Heoi anō, nō tana haerenga atu ki te tiro tiro i ana hua, i tūpono ki tētehi ngaro, ka kainga ake.

It wasn't until the end of the first week that my spider made a web to catch flies in. **Situation**

Inside that jar, of course, she would never catch anything.

Problem

So, to feed her, I had to take dead flies from other spider's webs, and put them on her web.

Solution

My spider took a while to find the flies, because they didn't move about and pull on her web like a fly that had just been caught. But when she was out checking her egg sacs, she would suddenly stumble on a fly, and eat it.

Evaluation

I te tuatahi ko tāna mahi he oma atu ki te huna i ngā wā ka puarehia e au te pounamu ki te whāngai i a ia.

Situation &

Problem

Nāwai, ā, ka taunga ia ki ahau. Heoi anō, ka noho noa iho.

Solution

At first, my spider would run and hide whenever I opened the lid to feed her.

Situation &

Problem

She soon got used to me, though. Then she just sat where she was.

Solution

Notice that the *Evaluation* section in the first *Problem-Solution* pattern actually contains a further *Problem and Solution*.

Kāore ia i tika rawa mai ki aua ngaro, he uaua te kitea atu i te mea, kāore aua ngaro i porotaitaka, kāore i oreore, kāore i kukume i te whare tukutuku, pēnei nei kua mau.

Problem

Heoi anō, nō tana haerenga atu ki te tiro tiro i ana hua, i tūpono ki tētehi ngaro, ka kainga ake.

Solution

My spider took a while to find the flies, because they didn't move about and pull on her web like a fly that had just been caught.

Problem

But when she was out checking her egg sacs, she would suddenly stumble on a fly, and eat it.

Solution

Problem sections of texts are often marked by the occurrence of negatives:

Nō whea hoki e mau, kei roto kē ia i tāna pounamu, kāore kau ana he ngaro o roto.

Inside the jar, of course, she would **never** catch anything.

Solution sections often contain 'so' or 'but' in English and 'nā reira' In Māori:

Nā reira au ka harihari atu i ngā ngaro mate, o ētehi atu whare pūngāwerewere, ka whakatakoto atu ki mua i a ia.

So, to feed her, I had to take dead flies from other spider's webs, and put them on her web.

Evaluation sections often contain 'but', 'though' or 'although' in English and 'heoi anō' in Māori:

Nāwai, ā, ka taunga ia ki ahau. Heoi anō, ka noho noa iho.

She soon got used to me, **though**. Then she just sat where she was.

This lexical selection relates, as will be indicated in the section on discourse relational

analysis, to the fact that *Problem and Solution* sections often involve contrastive relationships and *Evaluation* sections often involve the specific discourse relation of *Concession-Contraexpectation*.

The type of analysis conducted so far is a macro-level analysis that relates to overall textual patterning. The next level of analysis is conducted at a lower level. Here, the discourse relations that occur in the text are explored along with their signalling or, on some occasions, absence of signalling.

Analysis in terms of discourse relations (coherence) and their signalling (cohesion)

The *Additive* relations of *Bonding* are outlined in *Table 3* below. The first member of each relation is in **bold print**; the second is in *italic bold print*. The relational signals are underlined. Parts of the text that do not include additive relations are omitted.

Table 3: Parallel Māori and English texts with additive relations of Bonding indicated

<p>Ko taku whakaaro tonu i taua wā, anei kē tētehi mahi ātaahua rawa, ko te tiaki pūngāwerewere. Otirā, he pīrangī nōku kia kite i te āhua o te tiaki a te mama i āna hua <u>me te paopao mai o ngā punua.</u></p>	<p>“Now’s my chance to keep spiders”, I thought. I wanted to see how the mother looked after her eggs. <u>I wanted to see spiderlings hatch out of sacs, too.</u></p>
<p>I purua e ahau te whaea me ana hua ki roto i tētehi pounamu nui. Ā, ka purua atu hoki he oneone, he otaota, kātahi ka taupokina. Ka whakapiria atu he tatari waea ki runga i te taupoki, kia pai ai te uru atu o te hau.</p>	<p>I put the mother and her eggs sacs in a big peanut butter jar. I put them in there <u>with some dirt and some of the weeds I’d found my spider on.</u> Then I screwed on the lid, so that air could get into the jar through the holes in the mesh.</p>
<p>Ko te mahi tuatahi a taku pūngāwerewere he oma atu, ki te titiro ki ana hua. Ka tārewa mai ia i raro i tēnā hua, i tēnā hua. Ka tīmata ia ki te pātōtō i ngā hua ki ana waewae <u>me ana pae ngutu, kia mōhio ai ia e pai ana rātou.</u> Kātahi ia ka huna atu ki tētehi pokorua, ka whakatā. I te pango rawa o te pūngāwerewere, kore rawa ia e kitea atu.</p>	<p>The first thing my spider did was run up to check her egg sacs. She hung underneath each egg sac in turn. She felt them with her legs, <u>and tapped them with the palps beside her mouth,</u> to make sure they were safe and sound. Then she hid in a hole in the dirt for a rest. I could hardly see her then, because she was black and well hidden.</p>
<p>Kātahi rātou ka whakapōkaikai, <u>ka karamuimui he rite tonu rātou ki te pōkai pī.</u> E rua rā ki muri, ka tīmata tā rātou parore i te whenua, he torotoro i tō rātou kāinga atu i tētehi pito, atu i tētehi pito, ko te pounamu <i>anake tō rātou kāinga.</i></p>	<p>They clung together in a ball <u>and crawled over each other like bees in a hive.</u> After two days, they started to wander about <u>and explore their world . . .</u> the jar.</p>
<p>I reira ka tīmata ngā punua ki te whatu i ō rātou aho, <u>atu i te taupoki ki raro rā anō ki te oneone.</u> Heke takitahi iho ana rātou ki raro ngokingoki ai, me te pupuri tonu ki ngā miro. Ka pupu ake te aroha i tā rātou haereņa atu.</p>	<p>There, the spiderlings spun threads <u>that stretched from the lid to the ground.</u> One by one they left the jar, crawling slowly down the threads. I was sorry to see them go so quickly.</p>

The words in English that indicate that there is a relationship of *Bonding* are ‘with’, ‘and’ and ‘that’. These are multi-purpose signals in that they can occur in the context of other types of discourse relation too.

In Māori, the words that signal the *Bonding* relation are ‘me te’, ‘ā’, ‘me’ and ‘ka’. In Table 4, *Temporal* relations of *Temporal Sequence* is indicated in bold print with the relational signals underlined. Parts of the text that do not include temporal relations are omitted.

Table 4: Parallel Māori and English texts with temporal sequence relations indicated

<p><u>I fīmata tēnei mai i taku kitenga i tētehi whaea pūngā</u> - werewere me ōna hua, i waenganui i ngā otaota o taku māra.</p> <p><i>I purua e ahau te whaea me ana hua ki roto i tētehi pounamu nui. Ā, ka purua atu hoki he oneone, he otaota, kātahi ka taupokina. <u>Ka whakapiria atu he tatari waea ki runga i te taupoki</u>, kia pai ai te uru atu o te hau.</i></p> <p><u>Ko te mahi tuatahi a taku pūngāwerewere he oma atu, ki te titiro ki ana hua.</u> Ka tārewa mai ia i raro i tēnā hua, i tēnā hua. Ka tīmata ia ki te pātōtō i ngā hua ki ana waewae me ana pae ngutu, kia mōhio ai ia e pai ana rātou. <u>Kātahi ia ka huna atu ki tētehi pokorua, ka whakatā.</u> I te pango rawa o te pūngāwerewere, kore rawa ia e kitea atu.</p> <p><u>Nō te mutunga rā anō o te wiki tuatahi, kātahi anō taku mōkai ka huri ki te mahi whare tukutuku hei hopuhopu ngaro.</u> Nō whea hoki e mau, kei roto kē ia i tāna pounamu, kāore kau ana he ngaro o roto. Nā reira au ka harihari atu i ngā ngaro mate, o ētehi atu whare pūngāwerewere, ka whakatakoto atu ki mua i a ia.</p> <p><u>Kāore ia i tika rawa mai ki aua ngaro, he uaua te kitea atu i te mea, kāore aua ngaro i porotaitaka, kāore i oreore, kāore i kukume i te whare tukutuku, pēnei nei kua mau.</u> Heoi anō, nō tana haerenga atu ki te tiroiro i ana hua, i tūpono ki tētehi ngaro, ka kainga ake.</p> <p><u>I te tuatahi ko tāna mahi he oma atu ki te huna i ngā wā ka puarehia e au te pounamu ki te whāngai i a ia.</u> Nāwai, ā, ka taunga ia ki ahau. <u>Heoi anō, ka noho noa iho.</u></p> <p>Manawapā rawa atu ia ki te tiaki i ana hua, he nui hoki ana haerenga atu ki te tiroiro. <u>Nō te takanga o ngā rā, ka huri te tae o ngā hua atu i te tiro mā ki te pūmā whero, ā, i reira ka kitea atu ngā kotingotingo pango o roto.</u> Mōhio tonu au, kua tata ngā punua te paopao mai i roto.</p>	<p><u>It all started</u> when I found a mother spider and three egg sacs in my garden.</p> <p>I put the mother and her eggs sacs in a big peanut butter jar. I put them in there with some dirt and some of the weeds I’d found my spider on. <u>Then I screwed on the lid</u>, so that air could get into the jar through the holes in the mesh.</p> <p><u>The first thing my spider did was run up to check her egg sacs.</u> She hung underneath each egg sac in turn. She felt them with her legs, and tapped them with the palps beside her mouth, to make sure they were safe and sound. <u>Then she hid in a hole in the dirt for a rest.</u> I could hardly see her then, because she was black and well hidden.</p> <p><u>It wasn’t until the end of the first week that my spider made a web to catch flies in.</u> Inside that jar, of course, she would never catch anything. So, to feed her, I had to take dead flies from other spider’s webs, and put them on her web.</p> <p>My spider <u>took a while</u> to find the flies, because they didn’t move about and pull on her web like a fly that had just been caught. But when she was out checking her egg sacs, she would suddenly stumble on a fly, and eat it.</p> <p><u>At first,</u> my spider would run and hide whenever I opened the lid to feed her. She soon got used to me, though. <u>Then she just sat where she was.</u></p> <p>She took very good care of her egg sacs, checking them several times each day. And <u>as the days passed, the colour of the egg sacs changed.</u> <u>At first,</u> they were pure white. <u>Then they turned pinky white, and then they looked as if they had black dots inside.</u> I knew that the spiderlings must be hatching out of their eggs inside the sac.</p>
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<p><u><i>Nō te ekenga o ngā marama e rua mai i te wā i hopuna e au te pungawerewere rā, i tīmata mai te pipi o ngā punua. Kātahi te rā harikoa rawa atu! Nō taku manawanui i toa ai taku whakarauora i te whaea me ana hua. Ko te mahamaha o ngā punua kei ahau ināianeī.</i></u></p> <p><i>Kātahi rātou ka whakapōkaikai, ka karamuimui he rite tonu rātou ki te pōkai pī. E rua rā ki muri, ka tīmata tā rātou parore i te whenua, he torotoro i tō rātou kāinga atu i tētehi pito, atu i tētehi pito, ko te pounamu anake tō rātou kāinga.</i></p> <p><u><i>I tētehi rā, ka haere ahau ki taku ruma, ka kitea e au ngā pūngāwerewere e ngokingoki ana i runga i te taupoki, kua puta mai hoki rātou i te pounamu. Kua mōhio nei rātou ki te koropēpeke kia puta ai ō rātou tinana mā ngā pokapoka o te taupoki. Ko taku haringa tērā i te pounamu ki waho.</i></u></p> <p><u><i>I reira ka tīmata nga punua ki te whatu i ō rātou aho, atu i te taupoki ki raro rā anō ki te oneone. Heke takitahi iho ana rātou ki raro ngokingoki ai, me te pupuri tonu ki ngā miro. Ka pupu ake te aroha i tā rātou haerenga atu.</i></u></p> <p><u><i>Kotahi wiki i muri mai, ka haria atu te pounamu ki roto i te whare. I te rā tonu o muri, ka kitea te whaea kua tīmata tāna whatu i tana kōpaki hua hou. Ka hari anō ahau. Tērā pea e puta mai anō he punua pūngāwerewere hou.</i></u></p>	<p>Two months after I'd first captured them, the spiderlings began coming out of the sacs. It was a big day for me. I'd managed to keep the mother and her eggs alive. Now I had hundreds of brown baby spiderlings.</p> <p>They clung together in a ball and crawled over each other like bees in a hive. After two days, they started to wander about and explore their world . . . the jar.</p> <p>One day, I went into my room and found twenty or thirty spiderlings crawling about outside, on top of the lid of the jar. They had squeezed through the holes in the wire mesh. I put the jar outside.</p> <p>There, the spiderlings spun threads that stretched from the lid to the ground. One by one they left the jar, crawling slowly down the threads. I was sorry to see them go so quickly.</p> <p>One week later, I took the jar inside again. And the next day I discovered that the mother spider was spinning another egg sac. I was pleased. It meant that I would have another chance to watch baby spiders.</p>
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Notice that *Temporal sequence* relations in English are often signalled by 'then' or 'and then' or by words and phrases such as 'as the days passed', 'two months later' and 'after two days'. In addition, markers of tense and aspect (e.g., 'has squeezed', 'would have') play an important role in signalling *Temporal Sequence* relations. In Māori, these relations are often signalled by 'kātahi', 'heoi anō', or 'i reira' and by words and phrases such as 'nō te takanga o ngā rā', 'nō te ekenga o ngā marama e rua', 'e rua rā ki muri' and 'i te rā tonu o muri'. Markers of tense and aspect (e.g., 'kua') also play a role in signalling *Temporal Sequence* relations.

The *Causal relations* in this text are *Means-Purpose*, *Reason-Result* (or *Result-Reason*) and *Grounds-Conclusion*. They are indicated below, the signals being in bold print:

Ka whakapiria atu he tatari waea ki runga i te taupoki,
kia pai ai te uru atu o te hau. *Means Purpose*
 Then I screwed on the lid,
so that air could get into the jar through the holes in the mesh. *Means Purpose*

Ka tīmata ia ki te pātōtō i ngā hua ki ana waewae me ana pae ngutu,
kia mōhio ai ia e pai ana rātou *Means Purpose*
 She felt them with her legs, and tapped them with the palps beside her mouth,
to make sure they were safe and sound. *Means Purpose*

<i>I te pango rawa o te pūngāwerewere, kore rawa ia e kitea atu.</i>	Reason
I could hardly see her then,	Result
because she was black and well hidden.	Reason
<i>Nō whea hoki e mau, kei roto kē ia i tāna pounamu, kāore kau ana he ngaro o roto.</i>	Reason
<i>Nā reira au ka harihari atu i ngā ngaro mate, o ētehi atu whare pūngāwerewere, ka whakatakoto atu ki mua i a ia.</i>	Result
Inside that jar, of course, she would never catch anything.	Reason
So , to feed her, I had to take dead flies from other spider's webs, and put them on her web.	Result
<i>Kāore ia i tika rawa mai ki aua ngaro, . . . he uaua te kitea atu i te mea, kāore aua ngaro i porotaitaka, kāore i oreore, kāore i kukume i te whare tukutuku, pēnei nei kua mau.</i>	Result
My spider took a while to find the flies,	Reason
because they didn't move about and pull on her web like a fly that had just been caught.	Reason
<i>Nō te takanga o ngā rā, ka huri te tae o ngā hua atu i te tiro mā ki te pūmā whero, ā, i reira ka kitea atu ngā kotingotingo pango o roto.</i>	Grounds
<i>Mōhio tonu au, kua tata ngā punua te paopao mai i roto.</i>	Conclusion
At first, they were pure white, and then they looked as if they had black dots inside.	Grounds
I knew that the spiderlings must be hatching out of their eggs inside the sac.	Conclusion
<i>Kātahi te rā harikoa rawa atu!</i>	Result
<i>Nō taku manawanui i toa ai taku whakarauora i te whaea me ana hua.</i>	Reason
It was a big day for me.	Result
I'd managed to keep the mother and her eggs alive.	Reason
<i>Ka hari anō ahau.</i>	Result
<i>Tērā pea e puta mai anō he punua pūngāwerewere hou.</i>	Reason
I was pleased.	Result
It meant that I would have another chance to watch baby spiders.	Reason

In English, the *Reason-Result* (or *Result-Reason*) relation is frequently signalled by 'because'; or 'so'. *Grounds-Conclusion* is often signalled by 'must be' or by 'means (meant) that'. *Means-Purpose* is often signalled by the infinitive form of verbs (e.g., 'to make sure'; 'to feed') or by 'so that'. In Māori, the *Reason-Result* (or *Result-Reason*) relation is frequently signalled by 'i te mea'; or 'nā reira'. In this case, the *Grounds-Conclusion* is signalled by 'kua tata'. *Means-Purpose* is often signalled by 'kia . . . ai'.

Next, the *Associative relations* in the text are indicated (see below):

<i>he uaua te kitea atu i te mea, kāore aua ngaro i porotaitaka, kāore i oreore, kāore i kukume i te whare tukutuku, pēnei nei kua mau.</i>	Simple
they didn't move about and pull on her web	Contrast
like a fly that had just been caught.	Simple
	Contrast

<p><i>he uaua te kitea atu i te mea, kāore aua ngaro i porotaitaka, kāore i oreore, kāore i kukume i te whare tukutuku, pēnei nei kua mau.</i></p>	<p>Simple Contrast</p>
<p>Heoi anō, nō tana haerenga atu ki te tiro tiro i ana hua, i tūpono ki tētehi ngaro, ka kainga ake.</p>	
<p>they didn't move about and pull on her web like a fly that had just been caught.</p>	<p>Simple Contrast</p>
<p>But when she was out checking her egg sacs, she would suddenly stumble on a fly, and eat it.</p>	
<p><i>I te tuatahi ko tāna mahi he oma atu ki te huna i ngā wā ka puarehia. e au te pounamu ki te whāngai i a ia</i></p>	<p>Realisable Condition (Condition – Consequence)</p>
<p>At first, my spider would run and hide whenever I opened the lid to feed her.</p>	<p>Realisable Condition (Condition – Consequence)</p>
<p><i>I te tuatahi ko tāna mahi he oma atu ki te huna i ngā wā ka puarehia e au te pounamu ki te whāngai i a ia.</i></p>	<p>Concession- Contraexpectation Concession- Contraexpectation</p>
<p><i>Nāwai, ā, ka taunga ia ki ahau</i></p>	
<p>At first, my spider would run and hide whenever I opened the lid to feed her.</p>	
<p>She soon got used to me, though.</p>	
<p><i>ka huri te tae o ngā hua atu i te tiro mā ki te pūmā whero, ā, i reira ka kitea atu ngā kōtingotīngo pango o roto.</i></p>	<p>Simple Contrast Simple Contrast</p>
<p>. . . they were pure white. Then they turned pinky white, and then they looked as if they had black dots inside.</p>	
<p><i>Kātahi rātou ka whakapōkaikai, ka karamuimui he rite tonu rātou ki te pōkai pī.</i></p>	<p>Simple Comparison Simple Comparison</p>
<p>They clung together in a ball and crawled over each other like bees in a hive</p>	

Notice that *Simple Comparison* in English is often signalled by 'like' and *Simple Contrast* by 'like', but with a negated verb in one member of the relation and a positive in the other. Notice also that *Simple Contrast* may be accompanied in English by the multi-purpose signal 'but', and that *Simple Comparison* may involve lexical antonyms ('white'/'black'). Typically, *Concession-Contraexpectation* is signalled in English by '(al)though'. Conditionals are frequently signalled by 'if' in English. In this case, the conditional is a universal one and is signalled by 'whenever' (i.e., if at any time . . .). In Māori, *Simple Comparison* is often signalled by 'rite' and *Simple Contrast* by 'pēnei', or with a series of negated verbs. Notice also that *Simple Contrast* may be accompanied by the multi-purpose signal 'heoi anō', and that *Simple Comparison* may involve lexical antonyms ('mā'/'pango'). *Concession-Contraexpectation* is signalled by 'ahakoa' in Māori. Conditionals are frequently signalled by 'mehemea', 'mena', 'me', and 'ki te' in Māori. In this example, the conditional is a universal one and is signalled by 'i ngā wā' (i.e., if at any time . . .).

Some cohesive devices in the text have not yet been fully explored. These are the ones, referred to as 'lexical chains', that run throughout the text, linking its various themes together. One of these lexical chains relates to the narrator, another to

spiders, a third to the peanut butter jar, a fourth to flies, and a fifth to colour. In this section the English examples are outlined first with the Māori examples alongside to indicate where Māori utilises ellipsis, substitution and repetition and replacement within the text.

I . . . I . . . my . . . my . . . I . . . I . . . I . . . I . . .
I . . . I . . . I . . . my . . . I . . . my . . . my . . . I . . .
. . . me . . . I . . . I . . . me . . . I . . . I . . . I . . . I . . .
. . . I . . . I . . . I . . . I . . . I . . . I . . . I . . . I . . . I . . .

*ahau . . . taku . . . taku . . . taku . . . Ø . . . nōku . . . Ø . . .
. . . ahau . . . Ø . . . Ø . . . Ø . . . Ø . . . taku . . . au . . .
Ø . . . Ø . . . au . . . ahau . . . au . . . au . . . Ø . . . taku . . .
. . . taku . . . ahau . . . ahau . . . taku . . . Ø . . . Ø . . .
Ø . . . ahau . . . Ø*

mother spider . . . her three egg sacs . . .
spiders . . . the mother her eggs . . .
spiderlings . . . hatch out . . . sacs . . . the
mother . . . her egg sacs them . . . my
spider . . . my spider . . . her egg sacs . . . she
. . . each egg sac . . . them . . . her legs . . .
the palps beside her mouth . . . they . . . she . . .
. her . . . she . . . my spider . . . a web . . . she . . .
. . other spiders' webs . . . her web . . . my
spider . . . her web . . . she . . . her egg sacs . . .
. she . . . my spider . . . her . . . she . . . she . . .
she . . . her egg sacs . . . them . . . the egg
sacs . . . they . . . the spiderlings . . . hatching
out . . . their eggs . . . the sac . . . them . . . the
spiderlings . . . the sacs . . . the mother . . . her
eggs . . . brown baby spiderlings . . . they . . .
they . . . their world . . . spiderlings . . . they . . .
. . the spiderlings . . . spun threads . . . they . . .
. the threads . . . them . . . the mother spider . . .
. spinning . . . egg sac . . . baby spiders

*whaea pūngawerewere . . . me ōna hua . . .
pūngāwerewere . . . te mama . . . āna hua . . . (te
paopao . . . ngā punua - inverted) . . . Ø . . . te whaea
. . . ana hua . . . Ø . . . Ø . . . taku pūngāwerewere . . .
ana hua . . . ia . . . i tēnā hua, i tēnā hua . . . ngā hua . . .
. . . ana waewae . . . ana pae ngutu . . . ia ('she' - not
present in English) . . . rātou . . . ia . . . ia . . . Ø . . .
taku mōkai . . . whare tukutuku . . . ia . . . tāna
pounamu ('her jar' - not present in English) . . . ētehi
atu whare pūngāwerewere . . . ia ('her web' replaced
by ia 'she') . . . ia ('my spider' replaced by 'she') . . .
whare tukutuku . . . tana ('she' replaced by 'her') . . .
.ana hua . . . Ø . . . tāna mahi ('my spider' replaced
by 'her task') . . . ia . . . ia . . . Ø . . . ia . . . ana
hua . . . ana ('her' - not present in English) . . . ngā
hua . . . Ø . . . ngā punua . . . paopao . . . Ø . . . Ø . . .
. . te pūngawerewere ('them' replaced by 'the spider') . . .
. . . Ø . . . ngā punua . . . Ø . . . te whaea . . . ana hua . . .
. ngā punua . . . rātou . . . rātou . . . tō rātou kāinga . . .
. . ngā pūngāwerewere . . . rātou . . . nga punua . . .
te whatu i ō rātou aho . . . rātou . . . ngā miro . . .
rātou . . . te whaea . . . tāna whatu . . . kōpaki hua . . .
. punua pūngāwerewere.*

peanut butter jar . . . a big peanut butter jar . . .
. there . . . screwed on the lid . . . the jar . . .
holes in the mesh . . . that jar . . . the lid . . .
. the jar . . . the lid of the jar . . . the jar . . . the
holes in the wire mesh . . . the jar . . . the lid . . .
. . the jar . . . the jar

*pounamu pata pinati . . . pounamu nui . . . Ø . . .
taupokina . . . Ø . . . (te taupoki . . . tatari waea -
inverted) . . . tāna pounamu . . . te pounamu . . . te
pounamu . . . i runga i te taupoki . . . te pounamu . . .
ngā pokapoka o te taupoki . . . te pounamu . . . te
taupoki . . . Ø . . . te pounamu*

flies . . . dead flies . . . them . . . the flies . . .
they . . . a fly . . . a fly

*ngaro . . . ngaro mate . . . Ø . . . aua ngaro . . . aua
ngaro . . . Ø . . . tētahi ngaro*

black . . . colour . . . pure white . . . pinky
white . . . black . . .

pango . . . tae . . . tiro mā . . . pūmā whero . . . pango

These lexical chains also hold the text together as a unit, working to reinforce the relations and relational signalling. In addition to the larger lexical chains indicated above, there are smaller thematic chains. This, for example, there is a *whānau* or family chain as follows: *whaea* and *mama* (mother), *hua* (egg), and *punua* (offspring).

Conclusion

Some of the difficulties faced by second language learners in interpreting and creating coherent texts may relate to the fact that teaching has tended to focus exclusively on lexico-grammatical competence. While there is no denying the importance of such fundamental linguistic knowledge, other types of knowledge are also required, including knowledge of the type outlined here. I have attempted to demonstrate two different, but related, types of knowledge that impinge on the interpretation and creation of coherent texts. I have not, however, addressed the issue of exactly how this knowledge can be used to inform appropriate pedagogies. Experienced language teachers will, however, no doubt be able to develop these pedagogies for themselves.

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