The Discourse Role of Vocabulary in Three Major English Text Patterns

Nobuko Tahara

Abstract:
This paper analyses an English text in terms of major English text patterns, general-specific, claim-counterclaim/hypothetical-real and problem-solution, by making use of 'signaling vocabulary' that has the role of indicating the functional segments of the patterns. The results, by supporting a discourse role of signaling vocabulary, exhibited a mix of the three patterns, with some kind of a variation from a typical pattern, in the overall and subordinate structures. At the same time the analysis made clear that some vocabulary items, such as superordinates and advance labels, have a discourse marking role and help create the text patterns. The results suggest discourse-based vocabulary teaching can be used for raising students' awareness of English text patterns.

1. Introduction
Coulthard et al. (2000, 14) state that English texts have distinctly preferred ways of organizing and presenting information. Genre and typical patterns are representations of such typical text structures of English, of which text patterns are the focus of this paper. It is suggested that text patterns are indicated by so-called signaling vocabulary, which 'clusters around the elements of larger patterns in text' (McCarthy, 1991: 79). Based on this suggestion, this paper analyses an English text in terms of three major patterns of English, problem-solution, general-specific and claim-counterclaim/hypothetical-real, proposed in Hoey (1983) and Winter (1994).

Firstly, previous studies on English text patterns and characteristic features of each pattern are examined (section 2). After stating the methodology of the research (section 3), this paper analyzes one text taken from Time magazine in terms of the three major patterns (section 4). Discussion is in part provided in section 4 through the analysis of signaling vocabulary, but there is a separate discussion section (section 5), where the implications of the results are explored for classroom application, before coming to the conclusion in section 6. In this paper I want to suggest the merits of teaching discourse dimensions of vocabulary, aiming at directing students' attention to English text patterns and naturally
sounding English discourse.

2. Previous studies on text patterns

Studies by Winter (Coulthard et al., 2000) and Hoey (Papegaaij and Schubers, 1998: 148) suggest that there are a number of discourse patterns that occur frequently in written English texts, and people have an ability to recognize them. Typical English text patterns are problem-solution, general-specific and claim-counterclaim, the last of which, according to McCarthy (1991: 80), is equal to hypothetical-real. These linguists suggest that a text pattern is indicated by particular vocabulary that signals the functional segments of the text, which subsequently suggests the types of the patterns. This notion of vocabulary’s role in rhetorical patterns sees its origin in ‘Vocabulary 3’ (Winter, 1977), a collection of vocabulary items that signal logical sequence clause relations. Subordinators and coordinators are grammatical connectors which signal logical sequence, whereas Vocabulary 3 items are lexical choices, which, being composed of nouns, verbs and adjectives, can more explicitly signal relationships between clauses (Coulthard et al., 2000: 32-33). For example, a Vocabulary 3 noun ‘reason’ functions as ‘because’; or ‘condition’ functions as ‘if’ or ‘when’. In this way, the notion of Vocabulary 3 blurs the traditional distinction between grammar and lexis, and has been expanded into the perspective of discourse organizing words. This paper will examine such discourse roles of vocabulary.

Each of the three major text patterns, problem-solution, claim-counterclaim/hypothetical-real, and general-specific, has a characteristic textual organization which it signaled by lexical elements. The problem-solution pattern has a typical organization represented as: situation-problem-solution/response-evaluation (Hoey, 1994: 8; McCarthy, 1991: 73). Each segment of the pattern is indicated by signaling words. For example, the problem segment will be often signaled by such problem-indicating words as ‘concern’ or ‘difficulty’, and the response will be by ‘change’, ‘develop’ or ‘find’.

Another typical pattern is the claim-counterclaim. It can be used interchangeably with the hypothetical-real (McCarthy, 1991: 80), and in this paper from hence, the hypothetical-real pattern is used. This is because, according to Winter (1994: 62-65), the hypothetical-real has two distinct types: hypothetical-denial-correction (the denial pattern), and hypothetical-affirmation-basis of affirmation (the affirmation pattern). The latter type well represents the basic structure of the Time text that is examined later. As for the hypothetical segment, it refers to a situation which is not known or controversial, including one in which the writer repeats somebody else’s statement, and it is signaled
explicitly by words indicating doubt or uncertainty such as 'might', 'seems' or 'say' (Jordan, 1984: 148, in McCarthy, 1991: 80). According to Winter (1982: 196-200, in Winter, 1994: 63) the real element, which includes affirmation and basis of affirmation segments, is also signaled lexically by such words as 'affirm', 'agree' or 'know'. In this way, signaling vocabulary can be a major indicator of the problem-solution and the hypothetical-real patterns.

The general-specific pattern is characterized by the text structure of an initial general statement, a series of more specific statements, and a further generalization (Coulthard et al., 2000: 21). There are some expressions that realize general and specific relations such as 'for example', but more generally it is signaled by general-specific word relations connected by cohesive lexical ties, including exact repetition, pronouns, (near) synonyms, hyponyms, and superordinates (ibid.: 23). Therefore this pattern is identifiable by cohesive word links and general-specific word relationships.

3. Methodology

This paper examines an English text in terms of the three major patterns by finding signaling vocabulary. It is basically an intuition-based analysis of the text. In doing so, some word lists of discourse signaling vocabulary will be referred to, such as Jordan's (1984: 148, in Coulthard et al., 2000: 80) for the hypothetical-real pattern; Winter's (1982: 196-200, in Winter, 1994: 63) for the denial and affirmation; and, McCarthy's (1991: 79) for the problem-solution. Such lists are useful and applicable to the analysis, but it needs to be noted that they are no more than references. Signaling vocabulary are open-set items to which anyone can add another one (Coulthard et al, 2000: 33; McCarthy, 1991: 74). As Bolivar (1994) states:

''the signals themselves can be misleading. It is the signal in the context of the sentence where it appears and in the context of the sentences that precede and follow which will indicate whether the signal must be interpreted as belonging to the valuate turn or to an initial posture or to a response''

(P. 292)

The text selected for the analysis is Coolest inventions—tomato (Lemonick, 2002), a Time magazine article written by Michael D. Lemonick, reporting on research by a scientist, Charles Arntzen, on the invention of vaccine-implanted food. (See Appendix 1 for the full text, where each line is numbered basically by sentence boundaries and also by the clause or dash, which Tadros (1994: 70) notes 'are
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capable of making major discourse patterns'. The text was chosen firstly because it is authentic and is therefore a good one with which to examine the real nature of text patterning. It is also a relatively short non-narrative press text presenting the author's views. According to McCarthy (1991: 77), such a text is a good source of signaling vocabulary, although the view expressed in the text is neutral, as explained in the following section.

4. Analysis of the text

4-1. Text as hypothetical-real

The text expresses a great deal of hypotheticality with such words as: 'says', 'would', 'could' and 'will' present throughout the text. The writer does not clearly state his opinion with definitive terms and his comments are not judgmental, as he tries to be objective in his attitude in reporting somebody else's research. What is said in the text is either attributed to the scientist, Arntzen, in a direct mode or presented by the writer in indirect quotation. This explains why text has little affirmation-signaling vocabulary.

Despite the lack of affirmation signals, this paper considers the text to have the hypothetical-real pattern, with the framework of: hypothetical (sentence 1); basis of affirmation (sentences 2-16); and, affirmation (sentence 17), of which the latter two compose of the real. The hypothetical section (sentence 1), which is to 'present] the statement to be affirmed or denied as true' (Winter, 1994: 63), has a lexical indication of hypotheticality with the phrase '(Arntzen) is convinced', attributing the comment to the third party. The real section, which is to 'transmute the hypothetical Situation into real Situation' (Winter, 1994: 62), does not have clear lexical indications as real, but is characterized by hypothetical-expressing words such as 'says', 'would', and 'could'. Even so, the writer Lemonick gives consent in the affirmation segment (sentence 17) to what is the perceived truth of Arntzen's proposition by declaring his state of knowledge as regards to what he is reporting. This is done by expressing his evaluation with 'could' and 'won't'. Also, the basis of the affirmation section (sentences 2 to 16) produces the effects of making the reader think that the writer agrees with Arntzen's comments in general. He does this by mixing his own personal comments with Arntzen's. The distinction between the two becomes blurred. As suggested in Winter (1994: 63), the hypothetical and real structure can be regarded as the basic text structure that is used to report the writer's response to the perceived truth of somebody else's statements. Thus, even if it lacks clear lexical indication of the real, the text examined can be considered the hypothetical-real pattern.
4-2. Text as general-specific

By placing the text in the hypothetical-real framework, and therefore removing the reader’s attention from attributions by speakers, the two other text patterns become more visible. With the general-specific pattern, the structural components of the hypothetical-real: hypothetical-basis of affirmation-affirmation, will be directly transferred to those of the general-specific: general (sentence 1) -specific (sentences 2-16) -general (sentence 17). The general expresses the main topic, which is Arntzen’s proposition that ‘the reddish, powdery substance will make the world a safer place’ (sentence 1). The vague, unspecific phrase ‘reddish, powdery substance’ and ‘make the world a safer place’ are particularized in the specific section. All the specifications converge to form the writer’s general statement in the last segment.

Specification is made by using superordinates, (near) synonyms, hyponyms, or other lexical ties, which connect with words that occur later in the text. For example, ‘reddish, powdery substance’ in the proposition is expanded in the specific section in the links of: ‘tomato(juice)’ - ‘this fruit’ - ‘crops’ - ‘bananas’ - ‘potatoes’; ‘powdery’ - ‘freeze-dried’ - ‘reconstituted’; ‘substance’ - ‘gene’ - ‘stimul’ - ‘protein’ - ‘vaccines’; and so on. ‘Safeplace’ in the proposition too, has such clear lexical link as ‘immune system’ - ‘fight off’ - ‘vaccine’ in the specific section. After being explained there, the proposition is repeated as the writer’s statement in the last sentence. These word links create partial general-specific relations not only between words, but also across overall segment relations. In this way, the text can be interpreted as the general-specific-general.

4-3. Text as problem-solution

The problem-solution pattern in the text is exhibited in the structure of: situation-response-positive evaluation-evaluation basis-response-positive evaluation, where complex subordinate patterns are embedded. Each segment is signaled by vocabulary as explained below. (Refer to Appendix 2 for a diagrammatic representation of this pattern):

Situation with problem implied (sentence 1)

(1) Charles Arntzen is convinced that the reddish, powdery substance he holds in his hand will make the world a safer place.

(underlines indicate signaling vocabulary)
The situation is signaled by 'is convinced', and a problem is implied by 'make ... safer', suggesting a situation where the world is not safe enough and needs some improvement.

Response with embedded general-specific and problem-solution (sentences 2-5)

(2a) Arntzen, an Arizona State University biologist, has been working for nearly five years to create what is basically freeze-dried tomato juice- (2b) but not from any ordinary tomatoes.

The response is signaled by 'work' and 'create'. At the same time, 'basically' (clause 2a) signals the start of the general-specific pattern, and it is specified by 'not ordinary' (clause 2b), and further by the succeeding sentences 3 to 5, which is constructed by the problem-solution:

(3) This fruit (yes, tomatoes are fruits, not vegetables) carries a gene from a strain of the E. coli bacterium. (4) Some strains of E. coli can cause violent diarrhea and death. (5a) Swigged down in reconstituted juice, however. (5b) a protein made by the E. coli gene should act as a vaccine, priming the immune system to recognize and fight off the real thing.

Sentence 3 is a situation signaled by 'carry' and sentence 4 is a problem signaled by 'violent', 'diarrhea' and 'death'. This is followed by the response that has 'swigged' and 'reconstitute' (clause 5a) as signaling words, and by a positive evaluation with 'priming' and 'fight off' (clause 5b). In this way, the general description 'freeze-dried tomato juice' (clause 2a) is explained in clause 2b and sentences 3 to 5.

A positive evaluation and bases of evaluation (sentences 6-13)

(6) What's the advantage?

This represents a positive evaluation indicated by the initial 'advantage'. It is supported by four bases of evaluation expressed in the succeeding sections of sentences 7 to 13. The first basis is in sentences 7 to 8;

(7) Conventional vaccines are costly to make and distribute in the impoverished Third World countries that need them most. (8a) That's why Arntzen and others began thinking about.
using plants instead of needles, creating vaccines (8b) that would be easy to grow locally in, 
say, Vietnam or Bangladesh.

This first basis comes within a problem-solution structure; the problem (sentence 7) is signaled by 
'costly', 'impoverished', and 'need'; the response (clause 8a) is by 'began' and 'think about'; and, the 
positive evaluation (clause 8b) is by 'easy'.

The second and third bases of a positive evaluation are in sentences 9 and 10, respectively:

(9) He focused on diarrhea, because, says Arntzen, 'diarrheal diseases kill at least 2 million 
people in the world every year, most of them children.' (10) And he chose tomatoes, because 
greenhouse-grown tomatoes can't easily pass their altered genes to other crops and because 
tomato-processing equipment is relatively cheap.

The second basis (sentence 9) is signaled by 'focused' and the third (sentence 10) is by 'not easily' and 
'cheap'. 'Focused' signals a positive evaluation, although it seems more likely to function as a response 
in the real-world situation, but a linguistic function needs not be the same as one in the real-world. As 
Winter (1994: 33) states 'a linguistic 'problem' need (sic) not be seen as a real-world problem by the 
reader, nor need the reader accept a linguistic 'solution' as a real-world solution'. In other words, 
linguistic function depends on the context where a word is used or how the text discourse is 
interpreted.

As shown in the above example, the notion of signaling vocabulary is not as clear-cut as suggested 
in theory. Neither is the type of pattern. The mix of the three patterns in the overall frame of the text 
is one example, and another example is observed in the segment of sentences 6 to 13. It can 
alternatively be interpreted as the question-answer pattern, which has 'some features in common with 
the problem-solution pattern, but whose primary motivation is the pursuit of a satisfactory answer to 
a question explicitly posed' (McCarthy, 1991: 157). The phrase, 'what's the advantage?' (sentence 6) 
forms the question segment, and the rest is the answer. These examples show that it is important to 
remember that the functions of vocabulary depend on context and a different interpretation of a word 
function brings a different interpretation of text patterns.
Sentences 11 to 13 form another basis of positive evaluation:

(11a) It would be easier still just to take whole tomatoes and eat them, (11b) but that could be a disaster, says Arntzen. (12) Individual tomatoes come in different sizes with varying levels of protein, and uniformity of dosage is key to an effective vaccine. (13) "I'll always regret calling these 'edible vaccines,'" he says, "because that's just the image it conjures up."

The line which directly represents the basis is in clause 12b 'uniformity of dosage is key to an effective vaccine', in which a positive evaluation is signaled by the words 'key' and 'effective'. This segment is constructed by a combination of the hypothetical-real and the problem-solution patterns. Clause 11a, signaled by 'would' and 'easier', represents a hypothetical situation evaluated positively, while clause 11b is a counter-hypothetical situation with a problem word 'disaster'. The situation in clause 11a and clause 11b is placed in a matching contrast, which may become clearer by injecting a denial clause, 'That is not quite true' (Winter, 1994: 66), between the clauses. After the injection, the situation in 11b becomes the evaluated basis for the denial. Then, sentence 12, following the denial, becomes the reformulation, evaluated positively with such signaling words as 'key' and 'effective', rather than an outright correction. Sentence 13 can be considered common ground, where 'points of similarity between the two sets of claims are noted' (Coulthard et al., 2000: 25). Although the common ground is an element of the claim-counterclaim (ibid.), the term is used here since it best represents this segment. The purpose of the common ground is to accept the situation in 11a of taking whole tomatoes, which was once denied in 11b, and this completes the combination of the hypothetical-real and the problem-solution.

Response (sentences 14-16)

(14) Arntzen hopes to test his tomato juice on animals within the year, with human trials to follow. (15) He's also thinking about vaccines for cholera, hepatitis, human papilloma virus and measles. (16) And he's not alone: some four dozen labs around the world are working on their own versions of what Arntzen would prefer to call "plant-derived" vaccines, based on tomatoes, bananas and potatoes.

This is a response, signaled by 'test', 'trial', 'think', and 'work on'. These examples suggest a subtlety involved in the function of vocabulary: 'test' and 'trial' are used for the basis of evaluation in Hoey
but here they act as a response. As explained with ‘focused’ in sentence 9, a word’s function depends on the context where it is used. ‘Hopes’ in sentence 14 signals a positive evaluation for the future, but ‘[lexical] signaling is essentially evaluative’ (Hoey, 1994: 35) and a fuller representation of the response is ‘Evaluation of Situation as Response’ (ibid.). So it may not be strange for a response segment to be signaled by positively-evaluating ‘hopes’.

Positive evaluation (sentence 17)

(17) Within a few years, some of the planet’s most pernicious killers could be in retreat and it won’t hurt a bit.

This last segment functions as a positive evaluation, signaled by ‘could’ that evaluates possibilities, and by ‘in retreat’ and ‘won’t hurt’, which are evaluative in themselves. This confirms that the text can be interpreted as a problem-solution pattern. As exhibited so far, the functional segments in this pattern were small while the other patterns were relatively large, which supports McCarthy (1991: 159) in that ‘[patterns] are of no fixed size in terms of number of sentences or paragraphs contained in them’.

In conclusion, the results of the analysis of the text show that the text is written in a mix of all three text patterns in the overall and subordinate structures. This supports the discourse role of signaling vocabulary and the existence of typical English text patterns. If it is known that report text, such as the text which was examined, is often written in the general–specific, such tendency can be usefully exploited in the classroom.

4-4. Discourse marking vocabulary items

In analyzing the text in terms of the three text patterns by finding signaling vocabulary, another related discourse role—a discourse marking or topic shifting role—was found in some vocabulary items such as superordinates, advance labels, and resurrected full nouns. These lexical items serve as intersentential links and, being located across clause and sentence boundaries, help generate text patterns with a discourse marking role. Take sentences 2 to 5, for example, a response section in the problem-solution. It embeds the general–specific, and the specific section further embeds the problem-solution pattern. See Figure 1, below which shows these relations:
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Figure 1. Overlaid/embedded patterns in the response segment:

| General (C2a) | Arntzen  |
| SPECIFIC (C2b) |       |
| Further specific (S3-S5) |       |
| Problem-solution |       |
| Situation (S3) | (This) fruit |
| Problem (S4) |       |
| Response (S5) |       |

'C represents clause and S sentence. Italicized and underlined words are discourse-marking words.

The start of the subordinate general-specific is signaled by the recovered full noun 'Arntzen'. The use of the full noun instead of the pronoun, generates a sense of something new, as suggested by Fox (1987) and referred to in McCarthy (1991: 66). At the start of the problem-solution, the use of 'this' fruit, a superordinate to tomatoes, has the effect of encapsulating the preceding segment and bringing various elements of the text together under one, more general term (McCarthy, 1991: 66). Another example of discourse-marking vocabulary items is 'advantage' in 'What's the advantage?' (sentence 6). This is an example of an 'advance label', which is a forward referring nominal group that precedes its lexical realization (Francis, 1994: 83). It predicts what will come next in a text, while also organizing the discourse (ibid.: 84).

In addition to these vocabulary items, such linguistic strategy as shifts of tense was also found to mark the discourse. Look at sentence 11, which comes at the start of a new hypothetical-real pattern. The use of 'would' and 'could', after the use of the present tense produces a sense of something new. As for the shift of tense, Hoey (1994: 40) states that 'a change of verb form ... indicates the beginning of a new functional unit' and Bolivar (1994: 87) also suggests that a turn is maintained by using the same tense and this tends to occur in all types of turns. All of these examples support the discourse-marking or topic-shifting role of some vocabulary items and linguistic strategies to create English text patterns.

5. Implications of a discourse role of vocabulary for teaching

The analysis in the previous section indicates the discourse roles of signaling vocabulary and a number of lexical items in English text patterns. This section explores the implications of these results for the teaching of English. The discussion concerns two points: the merits of learning of discourse patterns in a second language (L2), and ways in which vocabulary can be taught with reference to textual context.
5-1. Merits of learning of discourse patterns in a second language

English is often taught in a bottom-up approach by dissecting texts into sentences and individual vocabulary items. Although this approach can make their understanding easier, students who learned English in this way tend to pay little attention to the discoursal aspects of a text. It often seems the case in the writing of L2 learners that the sentence grammar and selection of words are very good but there are still some strange feelings as for the natural flow of discourse.

Text patterns are formed through discursive social practice and culturally engrained in the awareness of people in a society (Coulthard et al., 2000: 153). Such patterns are often learnt unconsciously while growing up in one’s first language (L1). The same may not be expected in L2. Although there is no agreement on whether different languages or cultures have different text patterns (McCarthy, 1991: 164-165), discoursal differences between English and Japanese are often pointed out. For example, Japanese speeches that tend to end up leaving audiences puzzled as to what the speaker wanted to say may reflect difference in rhetorical patterns between Japanese and English. McCarthy suggests (1991: 164) that ‘[oriental] text had ‘indirection’ as a characteristic’. Hinds (1983, in McCarthy, ibid.) also states that ‘...the acceptability in Japanese texts of what seems to the English eye to be the abrupt insertion of irrelevant matter’. Whether characteristic Japanese patterns interfere with English discourse patterns is not known either (McCarthy, 1991: 164-165). However, explicit attention to English discourse will expedite learners’ acquisition more quickly than just exposure to the language. By knowing, or becoming more aware of, L2 patterns learners can predict what will come next in different kinds of texts and this will facilitate better processing of those texts and deeper learning. This macro approach may benefit advanced students in particular, who have developed confidence with sentence level structures and may not be so distracted by partial grammatical and syntactic relations.

5-2. Approaches to vocabulary learning using textual context

The analysis in this paper supports the discourse roles of signaling vocabulary and some lexical items in generating text patterns. How can such roles for vocabulary be usefully brought to learners’ attention? A metalinguistic approach to teach the typology of text patterns and typical vocabulary that signals them will not be necessary, and may deprive the learners of interest in learning English. Besides such an approach seems too difficult for many learners whose priority is usually a ‘local encoding at the expense of larger discourse management’ (McCarthy, 1991: 161).
One approach this paper suggests is to teach some basic sequencing of the patterns, or some partial relations of the segments characteristic to the patterns, through various consciousness raising activities. The teaching of partial relations between functional segments, instead of the whole stages, can be justified, considering how incomplete the text patterns are and how irregular the order of the structural elements in each pattern that emerged in the analysis. The following examples are adapted from McCarthy (1991: 162). The general problem-response-solution sequence can be taught in a guided sequence activity by providing a number of frames, or by asking the students to remove unnecessary or superfluous information and rewrite a passage while providing some signaling vocabulary. In another example, a teacher may want to raise students' awareness of the hypothetical-real pattern, through the structure of reporting somebody else's report, and provide a list of appropriate vocabulary to use for the final segment of writer confirmation. With the general-specific pattern, word chaining activities and practice of the typical return to a general statement may encourage students to learn a sense of the coherence of the pattern. One way to teach intersentential vocabulary items is to give the students choices between correct and inappropriate items and let them discuss which vocabulary options are better. In this way they can improve their sense of clausal connection in relation to the overall text.

A discourse based approach to vocabulary learning can not only raise students' awareness of text patterns but will make vocabulary learning more fun. In traditional teaching, noun items such as superordinates and hyponyms, are often taught as independent vocabulary items without textual contexts. Pronouns are taught as the replacement of full nouns. Also various tense forms are taught simply as different types of the grammatical realization of the concept of tense. Learning vocabulary from a discourse perspective means learning vocabulary in context which will make learning of vocabulary more meaningful and interesting. An additional factor is that the discourse role of these English vocabulary items is less likely to be transferred to Japanese. As Baker (1992: 211) points out, 'different languages have different preferences for using specific devices more frequently than others'. Japanese often uses noun repetitions and does not use (near) synonyms as often as in English. As for advance labels, a big difference in syntax and the availability of nominalization in Japanese seems to make the discourse marking function of English non-transferable to the Japanese equivalent. Tense is another area in which Japanese has a different grammar system from English and the discourse marking function of these vocabulary items is not likely to be transferred to Japanese. Such non-transferable factors between English and Japanese make it worthwhile to raise students' awareness of the discourse dimension of English vocabulary.
6. Conclusion

This paper analyzed a *Time* article in terms of problem-solution, general-specific and hypothetical-real patterns by making use of signaling vocabulary. The results exhibited a mix of the three patterns in the overall text structure, and within the problem-solution pattern were embedded many subordinate patterns of different types. Each of the three main patterns was not as prototypical as suggested in theory. With all the complexity in the text patterning, however, the results can be considered to have proven the role of signaling vocabulary in generating text patterns, and offer partial evidence that these typical English text patterns do exist. Other than the discourse organizing role of signaling vocabulary, the analysis indicated the discourse marking role, or topic shifting role, of such lexical items as superordinates, advance labels and resurrected full nouns, providing intersentential links.

One of the implications of the results is to approach the teaching of text patterns by teaching vocabulary from a discourse perspective, as represented in signaling vocabulary and intersentential lexical items. This type of teaching could be achieved through various kinds of consciousness-raising practices, such as a guided sequence creation, word chaining activities, and so on, rather than through the explicit teaching of text patterns and characteristic vocabulary. Such activities in the teaching of the discourse role of vocabulary will be good not only for the teaching of text patterns of English, but will also make the learning of vocabulary more meaningful and interesting by it being learnt in context, rather than as lists of items independent from discourse. A knowledge of L2 text patterns is important, but little attention has been paid to them compared to local choices of grammar and vocabulary. Students may acquire a sense of L2 discourse through years of exposure, but directing their attention to the discourse aspects of language and giving them useful practice opportunities will facilitate the learning. This is particularly important for advanced learners who have already developed confidence with sentence level structures.

References:


Appendix 1

Coolest invention—tomato

By Michael C. Lemonick (Time, November 25th, 2002)

1) Charles Arntzen is convinced that the reddish, powdery substance he holds in his hand will make the world a safer place. (2a) Arntzen, an Arizona State University biologist, has been working for nearly five years to create what is basically freeze-dried tomato juice — (2b) but not from any ordinary tomatoes. (3) This fruit (yes, tomatoes are fruits, not vegetables) carries a gene from a strain of the E. coli bacterium. (4) Some strains of E. coli can cause violent diarrhea and death. (5a) Swigged down in reconstituted juice, however, (5b) a protein made by the E. coli gene should act as a vaccine, priming the immune system to recognize and fight off the real thing.

6) What's the advantage? (7) Conventional vaccines are costly to make and distribute in the impoverished Third World countries that need them most. (8a) That's why Arntzen and others began thinking about using plants instead of needles, creating vaccines (8b) that would be easy to grow locally in, say, Vietnam or Bangladesh. (9) He focused on diarrhea, because, says Arntzen, 'diarrheal diseases kill at least 2 million people in the world every year, most of them children.' (10) And he chose tomatoes, because greenhouse-grown tomatoes can't easily pass their altered genes to other crops and because tomato-processing equipment is relatively cheap. (11a) It would be easier still just to take whole tomatoes and eat them, (11b) but that could be a disaster, says Arntzen. (12) Individual tomatoes come in different sizes with varying levels of protein, and uniformity of dosage is key to an effective vaccine. (13) "I'll always regret calling these 'edible vaccines," he says, "because that's just the image it conjures up." (14) Arntzen hopes to test his tomato juice on animals within the year, with human trials to follow. (15) He's also thinking about vaccines for cholera, hepatitis, human papilloma virus and measles. (16) And he's not alone: some four dozen labs around the world are working on their own versions of what Arntzen would prefer to call "plant-derived" vaccines, based on tomatoes, bananas and potatoes. (17) Within a few years, some of the planet's most pernicious killers could be in retreat—and it won't hurt a bit.

Appendix 2

Overall problem-solution pattern and subordinate patterns indicated by signaling vocabulary

*Bold indicates functional segments/ Italic: signaling vocabulary

*S indicates sentence and C clause

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<th>S1. Situation (problem implied): convinced/make ***a safer place/</th>
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<td>S2-S5. Response: work/create C2a. General: basically C2b-S5. Specific:</td>
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<td>S14-S16. Response: hope/treat/trial/think about/work on</td>
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