

Discourse relations, semantic relations and English in academic settings

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Abstract

This paper describes the use of the notions of *discourse elements*, *discourse relations* and *semantic relations* in the teaching of English in academic settings. The paper provides an overview of these notions as well as makes suggestions for how they might be drawn on in the teaching of English for academic purposes. Working with these notions can help students create the kinds of texts they need to be able to produce in their courses of study as well as give them strategies they can draw on for reading and writing texts in their future academic and professional lives.

Introduction

Recent years have seen an increase in a focus on discourse in language teaching and learning. There are, for example, a number of overview books on discourse analysis aimed at graduate students and researchers such as Gee's (2005) *An Introduction to Discourse Analysis*, Johnstone's (2007) *Discourse Analysis*, Jaworski and Coupland's (2006) *The Discourse Reader*, Schiffrin, Tannen and Hamilton's (2004) *Handbook of Discourse Analysis*, Martin and Rose's (2007) *Working with Discourse* and Paltridge's (2006) *Discourse Analysis*. There are also books aimed specifically at language teachers such as McCarthy's (1991) *Discourse Analysis for Language Teachers*, McCarthy and Carter's (1994) *Language as Discourse*, Riggensbach's (1999) and Wennerstrom's (2003) *Discourse Analysis in the Language Classroom*, Celce-Murcia and Olshtain's (2000) *Discourse and Context in Language Teaching* and Thornbury's (2005) *Beyond the Sentence*. Books which focus on discourse analysis for the teaching of English in academic settings are, however, less common. Two books which do touch on this are McCarter and Jakes' (2009) *Uncovering EAP* and Paltridge et al's (2009) *Teaching Academic Writing*.

An example of a student book which takes a discourse view of academic English is *EAP Now!* (Cox & Hill, 2004). This book focuses on a range of spoken and written academic genres such as oral presentations, academic essays and lectures. Other books such as Jordan's (1999) *Academic Writing Course* and Oshima and Hogue's (2006) *Introduction to Academic Writing* draw on discourse patterns such as Problem/Solution, Cause and Effect and Compare and Contrast for the organization of their teaching materials. One view of discourse that has been less explored in the teaching of academic English, however, is the notions of *discourse elements*, *discourse relations* and *semantic relations* (Crombie, 1985a, 1985b). This article provides an overview of these notions as well as makes suggestions for how they might be drawn on in the teaching of English for academic purposes.

Discourse elements, discourse relations and semantic relations

Discourse elements

Discourse elements refer to divisions in a text "in terms of the way in which their parts function to convey various types or categories of information" (Crombie, 1985a, p. 58) such as Situation and Problem in Situation-Problem-Solution-Evaluation texts

(Crombie, 1985a). Each discourse element "is classified in terms of the communicative function which it performs in relation to the discourse as a whole" (Crombie 1985a, p. 58). A Problem/Solution text, thus, may have four discourse elements: Situation, Problem, Solution and Evaluation.

The notion of discourse elements is not the same, however, as the macrostructure (van Dijk, 1980) of a text. The macrostructure of a text refers to the "higher level semantic and conceptual structures that organise the 'local' microstructures of discourse interaction and their cognitive processing" (van Dijk, 1980, p. v); that is, the "sequences [of a text] which somehow 'belong together'" (van Dijk, 1977, p. 152). In scientific reports, for example, this refers to the Introduction, Materials and Methods, Results, Discussion and Conclusion sections of the text. The macrostructure of a text, in fact, represent a further aspect of discourse structure which co-occurs with other discourse structures in a text.

Discourse relations

Discourse relations refers to the relationship between discourse elements, such as, Problem-Solution and Solution-Evaluation in a Problem/Solution text. One discourse element, thus, combines with another discourse element to form a discourse relation. A Problem/Solution text may, thus, have three discourse relations: Situation-Problem, Problem-Solution and Solution-Evaluation. Discourse relations occur in all coherent texts and co-occur with all other discourse structures in the text.

Semantic relations

Semantic relations refer to the relationship between propositions in texts such as *Reason-Result*, *Condition-Consequence* within and between the discourse elements of texts (Crombie, 1985b). These relations are few in number and each of them is classified in terms of the perceptual process involved. Semantic relations, further, are divided into three broad categories, associative, logico-deductive and tempero-contiguity (Crombie, 1987, 1993). These categories and associated relations are listed in *Table 1*. Examples of semantic relations are given in *Table 2*.

Table 1: Categories of semantic relations (Crombie, 1993)

Associative relations	Logico-deductive relations	Tempero-contigial relations
<i>Simple Contrast</i> <i>Comparative Similarity</i> <i>Statement-Affirmation</i> <i>Statement-Denial</i> <i>Denial-Correction</i> <i>Concession-Contraexpectation</i> <i>Supplementary Alternation</i> <i>Contrastive Alternation</i> <i>Paraphrase</i> <i>Statement-Exemplification</i>	<i>Condition-Consequence</i> <i>Means-Purpose</i> <i>Means-Purpose</i> <i>Reason-Result</i> <i>Means-Result</i> <i>Grounds-Conclusion</i>	<i>Chronological Sequence</i> <i>Temporal Overlap</i> <i>Bonding</i>

Table 2: Semantic relations: Some examples (Crombie, 1985b)

Relation	Description	Example
<i>Reason-Result</i>	Here, the reason member (which very often follows the result member in English) gives a reason why a particular effect came or will come about.	Agamemnon was pleased because the princes fought.
<i>Statement-Exemplification</i>	Here, the first member provides a general statement and the second adds a proposition (or more than one proposition), which is presented as an exemplification of the general statement of the first member.	Battle always leads to unnecessary savagery. Witness Achilles' treatment of the body of Hector.
<i>Simple Contrast</i>	This relation involves the comparison of two things, events or abstractions in terms of some particular in respect of which they are different.	Paris was a Trojan; Helen, a Greek.
<i>Means-Purpose</i>	In this relation, the purpose member outlines the action that is/was/will be undertaken with the intention of achieving a particular result.	Agamemnon surrendered the girl in order to propitiate Apollo.
<i>Condition-Consequence</i>	In this relation, the consequence is dependent on a realizable or unrealizable condition or on a hypothetical contingency.	If Agamemnon confiscates Brises, (then) Achilles will withdraw.

Semantic relations, thus, describe the relationship between propositions in a text - as opposed to the relationship between clauses. Semantic relations may, equally, hold between two sentences with no conjunctive signaling, such as in the example of a *Reason-Result* relation given by de Beaugrande (1980, p. 37):

1. Peter burned the book. He didn't like it.
[Result] - [Reason]

which, as de Beaugrande demonstrates, could equally be expressed by :

2. Peter burned the book because he didn't like it.
[Result] - [Reason]

Semantic relations are, thus, different from clausal and interclausal relations. They are based on propositional rather than grammatical, or linguistic categories. Semantic relations, further, may be implicit or explicit and may be cued and encoded in a large number of different ways (Crombie, 1987). Thus, even though types of semantic relations are few in number, their potential encodings are not.

Figure 1 is an illustration of the statement of aims from a research report analyzed in terms of discourse elements, discourse relations, and semantic relations. Here the statement of aims outlines the problem that the study will aim to solve. It is preceded by the Situation component (the literature review) of the Situation-Problem relation and followed by the Solution relation (the methodology, results and discussion sections of the text) of the Problem-Solution relation. At the same time, this section of the text is the Result component of a *Reason-Result* semantic relation where the

reason for the study is the gap in the literature previously outlined in the review of research in the paper.

Figure 1: *A sample analysis: discourse elements, discourse relations, and semantic relations (based on Fuhrer, Egger, Lehnherr, Grandjean & Tschannen, 1989)*

Discourse elements and relations	Semantics Relations
(Situation)	(Reason)
- Problem	- Result
	The objectives of the present study were to examine the yield and grain quality of field-grown cultivars of soft red winter wheat following a simulated air pollution episode during pollination with ozone levels in slight excess of current ESEPA secondary standard for ozone in the atmosphere (120 nLL-1 hourly average not to be exceeded for more than 1 day yr-1).
- (Solution)	

A pedagogic application

One way in which this kind of framework can be drawn on in the teaching of English for academic purposes is to prepare sets of materials that have one of these patterns in common and to draw learners' attention to them in the teaching and learning activities that take place in the classroom. For example, learners can be asked to focus on particular discourse patterns, such as Problem/Solution, to listen and take notes in academic lectures and then to use these notes as the basis for the preparation of other academic genres based on similar organizational patterns, such as a seminar presentation or an academic essay. In this way, the classroom can aim to simulate language use in academic settings where subject area content may be introduced within the context of one genre, the academic lecture, and then drawn on for the preparation of another genres, such as seminar presentations or academic essays.

The starting point for this kind of activity is to choose a short Problem/Solution text in a content area relevant to the students' present or future area/s of study. The teacher takes notes on the text under the categories of Situation, Problem, Solution and Evaluation, as well as under the categories of Reason and Result within the Problem component/s of the text. These notes can then be used to make a video recording of a simulated academic lecture.

To use this material in the classroom, the teacher can prepare a note-taking grid based on the discourse structures that have been identified in the analysis. As the simulated lecture is played to students, they can first take notes under the headings of Situation, Problem, Solution and Evaluation (normally the Conclusion element of the text) and then, during a second playing of the video, take notes under the Reason and Result headings in the worksheet. Students should also, as they watch, be asked to identify ways in which the Reason and Result relations are expressed linguistically. That is, they can be asked to identify how particular elements, such as Reason and Result, is expressed grammatically. They may, for example, identify connectives (such as 'as a

result', 'so' and 'therefore'), nouns (such as 'cause', 'reason' and 'result'), verbs (such as 'leads to' and 'causes') or groups of words that function like prepositions (such as 'because of' and 'due to') etc, depending on how the particular text has been presented.

After this initial analysis, students can be asked to prepare a seminar presentation of their own on a related topic using the same rhetorical structures and then, in turn, to write a Problem/Solution text based on the notes they used for their seminar presentation. *Figure 2* is an example of a student text written during a lesson based on this kind of analysis (see Paltridge, 1995, 1997 for further details of this).

Of course, not all lectures are based on Problem/Solution texts as this lesson might imply. Lectures may also be based on a number of other rhetorical patterns such as Cause and Effect, Compare and Contrast, Description, and Argument etc. Students should, in later lessons, be presented with tasks which focus on these organizational patterns as well. Lectures may also involve a mixing of rhetorical patterns and not always be very neat examples of Problem/Solution, Cause and Effect etc type texts. The texts students write may also include similar mixing of rhetorical patterns.

Figure 2: *A student text*

Discourse relations		Semantic relations
Situation	The Kakapo, which is found in the remote and inhospitable south of Stewart Island, is one of New Zealand's most highly endangered birds.	<i>Statement-</i>
	Kakapos are flightless but good climbers, and usually live in native forests, sub-alpine zones. Leave, stems roots and fruit are their main food. They were once described as the most beautiful bird in the world. But nowadays there are only about 50 left.	<i>Amplification</i>
Problem	Because of developments of human beings such as removing soil and grass, cutting the forest for new roads, houses, or factories, the kakapo has lost its habitat and food resources. Huge numbers of them have died from starvation or hunting.	<i>Result-Reason</i>
Solution	A recovery programme has been launched to save the kakapo from extinction. In this programme, they are attempting to raise kakapos in captivity. In 1981, nests were located and several chicks were hatched.	<i>Statement-Amplification</i>
Problem	To conclude, the kakapo is nearly extinct.	<i>Result-</i>
Solution	We have to protect the rest of them and try	<i>Means</i>
Evaluation	our best with the recovery programme. We do not want to loose this gentle friend, which is part of New Zealand's heritage.	

The lesson the essay shown in *Figure 2* draws from was on the topic of endangered species. The lesson commenced with a group discussion which aimed to elicit what

the students already knew on the topic of endangered species. They then listened to a video presentation on the topic of one endangered species, the Black Stilt. As they did this they completed the chart in *Figure 3* which focused on the discourse elements and relations of a Problem/Solution text.

Figure 3: *A Problem/Solution listening task*

Situation	The Black Stilt is a long legged bird with a black bill and red legs.....
Problem/s	
Solution/s	
Conclusions/Evaluation	

The next task, shown in *Figure 4*, focused on the semantic relations of Reason-Result. Students listened to the presentation again and completed the chart noting the reasons that have led the Black Stilt to become an endangered species.

Figure 4: *A Reason-Result listening task*

Reasons	Results

After this, the students took notes on the ways in which the semantic relations of Reason-Result had been expressed linguistically in the text.

After they had completed these tasks, the students used the notes they had taken to prepare a presentation for the rest of the class on another example of an endangered species. They prepared a set of slides to help the other students follow their presentation, a handout to help the students follow their presentation and notes to use to help them give their presentation. Finally they each wrote an essay on their topic, as shown in *Figure 1*, drawing on the discourse and semantic relational patterns they had identified in their listening tasks and had used in their presentation.

Conclusions

This article has described a particular approach to the analysis of texts which can be drawn on to help students develop the discursive competence (Bhatia, 2004) they need to succeed in academic settings. This perspective on text analysis, it is important to say, aims to complement, rather than replace, other approaches to discourse (and genre) analysis. It looks for what different genres may have in common in terms of textual relations and explores ways in which this information might be exploited for the purposes of language teaching and learning. It looks, in particular, for relational patterns which occur in particular texts that may, equally, be found across a range of different genres. These similarities, I believe, can be usefully drawn on in the teaching of English in academic settings and can help students create the kinds of texts they need to be able to produce in their courses of study as well as give them strategies they can draw on for reading and writing specific purposes texts in their future academic and professional lives.

References

- Bhatia, V. K. (2004). *Worlds of written discourse: A genres based view*. London: Continuum.
- Celce-Murcia, M., & Olshtain, E. (2000). *Discourse and context in language teaching. A guide for language teachers*. Cambridge: Cambridge University Press.
- Cox, K., & Hill, D. (2004). *EAP Now! English for academic purposes*. Frenchs Forest, NSW: Pearson Education.
- Crombie, W. (1985a). *Discourse and language learning: A relational approach to syllabus design*. Oxford: Oxford University Press.
- Crombie, W. (1985b). *Process and relation in discourse and language learning*. Oxford: Oxford University Press.
- Crombie, W. (1987). *Free verse and prose style*. London: Croom Helm.
- Crombie, W. (1993). *Designing a pedagogic relational grammar of English*. Paper presented at ACTA/ATESOL (NSW) National Conference and Summer School, Sydney.
- de Beaugrande, R. (1980). *Text, discourse and process*. Norwood, N.J: Ablex.
- Fuhrer, F., Egger, A., Lehnherr, B., Grandjean A., & Tschannen, W. (1989). Effects of ozone on the yield of spring wheat (*Triticum aestivum* L., cv. *Albis*) grown in open-top field chambers. *Environmental Pollution*, 60, 273-289.
- Gee, J. P. (2005). *An introduction to discourse analysis: Theory and method* (2nd ed.). London: Routledge.
- Jaworski, A., & Coupland, N. (2006). *The discourse reader* (2nd ed.). London: Routledge
- Johnstone, B. (2007). *Discourse analysis* (2nd ed.). Oxford: Blackwell.
- Jordan, R. R. (1997). *English for Academic Purposes: A guide and resource book for teachers*. New York: Cambridge University Press.
- Jordan, R. R. (1999). *Academic writing course*. Third edition. London: Longman.
- McCarter, S., & Jakes, P. (2009). *Uncovering EAP: How to teach academic writing and reading*. Oxford: Macmillan.
- McCarthy, M. (1991). *Discourse analysis for language teachers*. Cambridge: Cambridge University Press.

- McCarthy, M., & Carter, R. (1994). *Language as discourse: Perspectives for language teaching*. London: Longman.
- Martin, J. R., & Rose, D. (2007). *Working with discourse: Meaning beyond the clause* (2nd ed.). London: Continuum.
- Oshima, A., & Hogue, A. (2006). *Introduction to academic writing* (3rd ed.). White Plains, NY: Pearson Longman.
- Paltridge, B. (1995). Analyzing genre: A relational perspective. *System*, 23(4), 503-511.
- Paltridge, B. (1997). Genre, discourse and academic listening. In M. Lewis (Ed.), *New ways in teaching adults*. Alexandria, VA: TESOL.
- Paltridge, B. (2006). *Discourse analysis*. London: Continuum.
- Paltridge, B., Harbon, L, Hirsh, D., Phakiti, A., Shen, H., Stevenson, M., & Woodrow, L. (2009). *Teaching academic writing: An introduction for teachers of second language writers*. Ann Arbor: University of Michigan Press.
- Riggenbach, H. (1999). *Discourse analysis in the language classroom. Volume 1: The spoken language*. Ann Arbor: University of Michigan Press.
- Schiffrin, D., Tannen, D., & Hamilton, H. E. (Eds). (2004). *The handbook of discourse analysis*. Oxford: Blackwell.
- Thornbury, S. (2005). *Beyond the sentence: Introducing discourse analysis*. London: Macmillan.
- van Dijk, T. A. (1977). *Text and context: Explorations in the semantics and pragmatics of discourse*. London: Longman.
- van Dijk, T. A. (1980). *Macrostructures: An interdisciplinary study of global structures in discourse, interaction and cognition*. Hillsdale, N.J.: Lawrence Erlbaum.
- Wennerstrom, A. (2003). *Discourse analysis in the language classroom. Volume 2. Genres of Writing*. Ann Arbor: University of Michigan Press.