

# MANIFESTING INTERTEXTUALITY IN THE PhD THESIS

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## ABSTRACT

'Manifest intertextuality' is a term used to describe the explicit reference within a text to other texts. In academic writing, this is conventionally performed through citation. This paper examines the purposes for which PhD thesis writers make reference to other texts through an extensive analysis of citation practices in 16 PhD theses, and focuses on the positions that the writers take, applying Groom's (2000) model of propositional responsibility and textual voice. The theses examined come from two areas of applied research, and it is proposed that manifest intertextuality is expressed in markedly different ways in different disciplines, and in different approaches to research. The implications for pedagogy are discussed.

KEY WORDS: Academic writing, citation practices, PhD theses, intertextuality, language pedagogy, propositional responsibility.

## RESUMEN

«Intertextualidad manifiesta» es un término que se emplea para describir referencias explícitas a otros textos dentro de un mismo texto. En el discurso académico, ésta se presenta convencionalmente a través de las citas. Basándose en un exhaustivo análisis del uso de las citas en 16 tesis doctorales, este artículo estudia los motivos por los que los autores de tesis doctorales hacen referencia a otros textos, centrándose en la perspectiva que sus autores adoptan y aplicando el modelo Groom (2000) de responsabilidad proposicional y voz textual. Dichas tesis provienen de dos áreas de investigación aplicadas diferentes y lo que aquí se propone es que la intertextualidad manifiesta aparece de forma notablemente diferente en disciplinas distintas y en distintas aproximaciones a la investigación. También se discuten sus implicaciones en la pedagogía.

PALABRAS CLAVE: Discurso académico, citas, tesis doctorales, intertextualidad, enseñanza de lenguas, responsabilidad proposicional.

## 1. INTRODUCTION

No man is an island, and similarly, no text exists in and of itself. Following Bakhtin (1986) we can say that any text is involved in dialogue with other texts. Writers create new texts out of their previous experiences of texts, from the various



textual schemata that have developed out of their readings and hearings, and also out of their writing, of other texts. This interrelatedness of texts is termed *intertextuality*, and Fairclough (1992) distinguishes two forms of intertextuality in a text: *manifest* intertextuality, which is realized through explicit references to other texts, as in the case of citation, and *constitutive* intertextuality which is implicit in the echoes of other texts conveyed through shared patterns, wordings, themes, and concepts. Our concern here is with the former of the two, and with aspects of voice and propositional responsibility in citations in academic text.

The ability to make appropriate references to the literature is an essential aspect of successful academic writing. The citation of other texts can be important at one of two levels: reference to the work or ideas of others can provide support for one's own position, and it can also show the novelty of one's work (Hyland 2000). References help to delineate what the present state of knowledge is, so that the writer can then locate his or her claims within the larger disciplinary framework, and establish a narrative context (Myers 1990).

The management of intertextuality in academic texts can be a highly complex task, and poses a major challenge to novice writers. To differing degrees, students are expected to demonstrate knowledge through the display of their reading and the integration of that reading into their texts. Hyland (*ibid*), among others, has demonstrated how the demands and expectations of writing can differ substantially across disciplines. Based on his experience of teaching academic writing to international students on an education programme at a British university, Groom (2000) has identified three features of writing that are central to argumentative writing: *identification, evaluation, position*. 'Identification' refers to the indication of *who* is responsible for a given proposition; 'evaluation' is the assessment of the validity or likelihood of a proposition; 'position' refers to the dominant voice in a text.

Groom takes an extract from a problematic student text, and demonstrates a mismatch between writer's intentions and reader's expectations. The student writer, writing on the subject of economic development, refers explicitly to a source text, Todaro, and elucidates the four strands of thought that the author, Todaro, sees economic development as dominated by. At the end of a numbered list of summarized points, the writer states: "There are two kinds of economic growth: one based on the western model..." and proceeds to elaborate on the two kinds of economic growth. As Groom says, "For the reader two questions arise here: *whose voice is this?* and *does nobody disagree with this?*" (Groom 2000:16). The wording of the text suggested that this was the voice of the student, and that the notion of 'two kinds of economic growth' is accepted within the discipline, but later discussion with the student revealed that neither was the case. The idea was both open to some dispute within the discipline, and it was also taken directly from the source text. The writer had wrongly believed that it was enough simply to mention Todaro once at the beginning of the section, for the whole set of ideas to be attributable to Todaro.

Groom's study draws on the notions of attribution and averral: in academic writing, attribution is the acknowledgement of the source of information or idea through citation, while averral refers to the acceptance by the writer of responsibility for the proposition. Averral is the "default condition" of a written text (Tadros



1993:101), in that it identifies, and is thus identified with, the textual voice of the writer herself or himself. Attribution, in contrast, refers to the use of a manifest intertextual marker to acknowledge the presence of an antecedent authorial voice. Tadros (1993:113) suggests that “most students are unaware of the signals of text averral and attribution, and... do not clearly signal when they have switched from expressing their own views to reporting or vice versa, with the result that they may be accused of at best ambiguity and at worst plagiarism.”

Reflecting on the problems of students such as the one exemplified above, Groom writes:

What such students need to be shown first of all is that academic argument invites them to develop a distinctive position of their own in relation to a question, problem, or issue in a given field of study... this position (or assessment) will not have been developed in isolation, but will have evolved through social interaction with peers and tutors, and through an ongoing intellectual and emotional engagement with relevant antecedent work. And it is also the case, as we have seen, that this antecedent work must be an explicit feature of the writer's final text-as-product. Nevertheless, a successful argumentative text is one which always positions the writer as its dominant voice: other voices must be allowed to speak, but they must ultimately be subordinated by, and thus subordinate to, the textual subjectivity of the writer herself or himself... (Groom 2000:19)

To help novice writers such as the writer in this example, Groom has developed a model of propositional responsibility and textual voice, which is reproduced, with minor alterations, in Figure 1. It should be stressed that this model is intended as a heuristic device, rather than as a prescription, and there are aspects of it that are open to debate. A fundamental distinction is made (following Thompson and Ye 1991) between the *writer* of the text and the *author* of other texts; the writer cites, and the author is cited. In the first column, the person responsible for the proposition—the writer or the invoked author—is shown, with a gradation of responsibility in which there is the possibility of shared responsibility, and within the area of shared responsibility the writer assumes more or less responsibility than is attributed to the author. The second column describes the nature of the textual voice, which can range from the monologic voice of the writer to a monologic voice of the author. The third column provides examples (again Groom is at pains to stress that these are representative examples, rather than indices of form-function relations).

Example 1 in the right-hand column is a simple instance of averral—as there is no reference to another text, the assumption is that the responsibility for the proposition is entirely the writer's (unless the sentence is part of a summary, or a quotation). Example 3, through the use of the reporting verb ‘points out’ which indicates that the writer is in agreement with the author, and the use of an “As...” fronted subordinate clause, exemplifies a shared, correspondent responsibility, while Example 4, with its simple reporting of the authorial proposition, endorses the proposition but places the author in prominent position. In Example 5, the use of the neutral “According to...” structure removes the writer's voice from the statement, and focuses on the author's proposition.



TABLE 1. PROPOSITIONAL RESPONSIBILITY AND TEXTUAL VOICE (GROOM 2000:22)

PROPOSITIONAL RESPONSIBILITY	TEXTUAL VOICE		EXAMPLE
	WRITER	AUTHOR	
Writer	Monologic	None	1 The moon may be made of cheese.
Writer > Author	Dominant	Subordinate	2 The moon may be made of cheese (Brie 1999).
Shared	Writer = Author	Corresponding	3 As Brie (1999) points out, the moon may be made of cheese.
Author > Writer	Subordinate	Dominant	4 Brie (1999) points out that the moon may be made of cheese.
Author	Deferred	Monologic	5 Brie (1999) argues that the moon... According to Brie (1999), the moon...

I have deferred discussion of Example 2, as this seems to me more problematic. The assumption behind the example appears to be that the structure of the sentence foregrounds the proposition, in terms of what the writer wishes to express, and places the authorial voice in the background, by appending the citation at the end of the sentence. While it is true that this form of citation (which will be referred to below as ‘non-integral citation’, following Swales 1990) gives prominence to the information rather than the author, and that this enables the writer to introduce the statement as part of an unfolding argument and thus maintain the dominant role in textual voice, it is not so clear that the writer is taking responsibility for the proposition. Of course, looking at the sentences in isolation is an artificial exercise, as the allocation of propositional responsibility will depend upon the rhetorical context of utterance, but a fairer interpretation would be that the responsibility for the proposition is attributed to the author in such citations; Brie 1999 is the source of this proposition, rather than the writer. A better example of Writer>Author responsibility might be “The moon may be made of cheese (for an elaboration of this argument, see Brie 1999)”, in which the writer maintains the dominant textual voice, and also maintains primary responsibility for the proposition while referring to another text for supporting evidence.

A major strength of the model is that it helps to direct students’ attention to the questions of who is responsible for the content of a proposition, and whether the statement is one that the writer wishes to signal support for. The analysis is particularly revealing in the case of speculative statements, such as the modalised example given above, which can be rephrased in terms of the likelihood that the moon is made of cheese, who believes that this is possible, and how certain they are of the truth of this statement.

As Groom openly admits, his model and the examples that he gives are drawn from his reading of a limited number of texts within the School of Education at the university that he works in, and he invites empirical testing of his model. As he makes clear, the texts he examines are primarily argumentative in orientation. Questions that warrant consideration are: to what extent is this model applicable to writing in different disciplines? Do writers in different disciplines tend to signal attribution in different ways? How applicable is the model to forms of writing other than the argumentative forms that Groom is concerned with?

## 2. A FRAMEWORK OF CITATION TYPES

In previous studies (Thompson 2000, 2001) I have looked at the writing of doctoral students in two disciplines, and at their citation practices. These studies were analyses and quantification of the citations made in the complete texts of 16 PhD theses, written by native speaker writers in the departments of Agricultural Botany and Agricultural and Food Economics, at the University of Reading. These two departments were chosen as they represented two different orientations of research work within a single faculty, the Faculty of Agriculture, and PhD theses were chosen as the intention was to investigate the nature of a certain genre of texts produced by student writers. In this paper, I will revisit the data but look at it in terms of propositional responsibility, and investigate the applicability of Groom's model to thesis writing in these two disciplinary areas.

### TYPES OF CITATION

Following Swales (1990:141) citations can be classified as *integral* or *non-integral*.

- Integral citations appear within the sentence. If the citation is in the form of a name followed by year number, typically the name will be incorporated into the sentence as an integral part of the syntax of the sentence, and will not be separated by brackets.
- In a non-integral citation, the citation is separated from the sentence by brackets and it plays no *explicit* grammatical role in the sentence.

In Groom's model, example 2 is a non-integral citation and examples 3, 4 and 5 are integral.

The distinction between integral and non-integral is primarily formal, but there is also a functional aspect. A writer can choose either:

- to emphasize the proposition (the finding, the data, the concept, for example), and de-emphasize the researcher/text/piece of research by placing the citation outside the sentence (*non-integral*), or



- to place the focus on the researcher, the cited text, or the piece of research by including the citation in the sentence (*integral*).

Weissberg & Buker (1990) have described these two types as ‘finding prominent’ and ‘author prominent’.

The basic distinction between non-integral and integral citations can be further refined, as reported in Thompson (2000, 2001). Within the category of non-integral citations, for example, there are statements which are clearly attributed to a *source* text, and there are also statements which are followed by a parenthetical recommendation to *refer* to another text for further information, as in ‘(see Thompson 2001)’. The former indicates that the other text is the source of the information or the idea, while the latter indicates that the other text is a source of further detail, which is excluded from the present text, for reasons, presumably, of economy. A full explanation, with examples, of the categorization framework follows.

#### NON-INTEGRAL CITATIONS

Non-integral citations can be classified as:

##### <RN Source>

The citation tells the reader where the information (verbal or numerical) or idea comes from. The function of the citation is that of *attribution*. The information is contained in a proposition, rather than in a single noun phrase. For example:

*Ex:* Both diseases are of economic importance, but black Sigatoka develops much more rapidly, causes more severe defoliation, and is more difficult to control than yellow Sigatoka (Stover and Dickson, 1976). (TAB-005)

NB: The figure in brackets after the example indicates the source of the sentence. TAB stands for Thesis Agricultural Botany, and the number identifies the particular thesis.

##### <RN Ident>

The citation identifies an actor in the sentence, where the actor is either explicitly or implicitly included.

*Ex:* It has been suggested (Wardlaw, 1972) that *M. fijiensis* might be a mutant of *M. musicola*... (TAB-005)

In this example, the sentence could also be expressed as ‘It has been suggested by Wardlaw (1972) that...’ but a choice has been made to de-emphasise the name of the researcher.



### <RN Origin>

An example of this type is:

*Ex:* The LOD score (Ott, 1985) is defined as the log<sub>10</sub> of... (TAB-002)

Where Source citations attribute a proposition to a source, Origin citations indicate the originator of a concept, technique or product. The citation refers to a noun phrase within the sentence.

### <RN Refer>

The citation refers the reader to a text to find further details. The details are not given in the writer's text. This form of citation usually has the word 'see' included, but not necessarily.

*Ex:* This equation can be rearranged to express Total Factor Productivity as a function of research spending (see Thirtle, 1988). (TAE-002)

A 'Refer' citation usually functions as a shorthand device; the reader is directed to another text in which exact details can be found.

## INTEGRAL CITATIONS

Two types of integral citation can be distinguished. In the first, the citation controls a lexical verb in the clause, either as the subject (*X argues...*) or as the controlling agent in a passive construction (*It is argued by X...*).

### *Verb-controlling*

The cited authors can feature as actors within a clause, controlling a lexical verb. In some cases, the verb may be relatively neutral as in:

*Ex:* Miller and Tanksley (1990a) found no such correlation when studying tomato genomic clones. (TAB-002)

The source of the uncertainty of a proposition can also be indicated through the choice of verb, with the verb here expressing a discourse process:

*Ex:* Nodari et al. (1992) suggest that this difference may be due to the fact that random clones mainly detect point mutations, whereas... (TAB-002)

### *Naming*

The other form of integral citation is one which is within the sentence, and which does not control a lexical verb form. The citation works as a noun phrase,

and is typically functioning either 1) as a modifier, as in *the work of Fuller (1997)* or *Fuller's (1997) work*, or 2) as a free-standing noun phrase followed by a linking verb, as in *Fuller (1997) is the best example of this approach*.

*Ex:* Surprisingly no attempt was made on publication of the work of Fukuda et al. (1989), to assay ACC oxidase from plant sources under these conditions. (TAB-007)

The citation in this case can refer to a person, as in *the work of Fuller (1997)*, or to a text, as in *Fuller (1997) is the best example of this approach*.

#### RELATION OF CATEGORIES TO GROOM'S MODEL

This framework was devised for a clearly different purpose than was Groom's model. If we are to consider how the framework can reveal something of the preferred types of propositional responsibility inferred in the citations in the theses, we need to determine what the various citation types can tell us about which of the four levels of propositional responsibility (Examples 2, 3, 4, 5 in Groom's model) are conveyed through the citations in the thesis corpus.

As discussed above, Groom interprets the Source type of citation as an indication of writer responsibility, but in the texts I examined a Source citation usually shows that the writer is using the citation as an attribution in a conventional sense. A typical example of this is:

Synthesis of hundreds of different PCR primers can be achieved at comparable cost of developing only a few monoclonal antibodies (Henson & French, in press). (TAB-005)

The writer argued, in the previous sentence, that PCR detection techniques have the advantage of being relatively cheap and quick, and the reference to the finding made by Henson & French in this sentence serves as supporting evidence for the claim made by the writer. The proposition, which is endorsed by the writer implicitly, is the responsibility of the cited authors.

A Source type citation is also common in reconstructive historical accounts, such as the following, where the citation indicates the source text from which the information is drawn. Here the citation does not play the role of supporting evidence but of contributing directly to the unfolding narrative:

These researchers had investigated the natural pyrethrins in the period 1910 to 1916 with the stated intention of synthesising related, possibly simpler, insecticides (Elliott and Janes, 1983). (TAE-002)

In this narrative sense, the citation is expressed in the writer's voice, with the authors' voice subservient, but the responsibility for the truth-value of the proposition is implied as resting with the authors. In both cases, then, we can say that the





Source citation is likely to carry the writer's voice, but the responsibility for the proposition is the author's.

The Ident citation type is often similar to a Source citation, except that the cited authors play an implicit role in the sentence, and are backgrounded in parenthetical reference. The purpose, as with most cases of non-integral citation, is to place the focus on the finding or the idea, rather than on the cited authors. The citation can either identify a noun phrase within the sentence, or can control a verb as in the following:

These genic regions have been shown to be highly conserved between the plant species (Bonierbale *et al* 1988; Tanksley *et al* 1988a; Hulbert *et al* 1990), presumably due to the selection pressures that the genes are under. (TAB-002)

The cited studies are those that have 'shown' genic regions 'to be highly conserved'. In this respect (where the Ident citation controls a verb), the citation is similar to the integral verb-controlling types, in that the writer can introduce either positive or negative evaluation of the author act/idea through the choice of reporting verb. As Groom shows in his Examples 3 and 4, the verb 'point out' can be used to indicate that the writer evaluates the proposition positively. To assess the degree of evaluation in the Ident citations and in the Verb Controlling citations, therefore, it is necessary to look at the verbs that are used, and to identify these as typically positive, negative or neutral.

'Origin' citations are neutral in tone, as they indicate the originator of a technique or a programme, acting in a parenthetical post-modificatory relationship to a noun phrase within a sentence (not referring to a proposition). 'Refer' citations, while parenthetical, carry the writer's voice in the use of imperative 'see' and the reference usually conveys an implicit positive evaluation. They are closest to Groom's second level, that of 'Writer>author', as they typically follow an averral, as in:

Methods to overcome this shortcoming have been proposed (see Ali and Seiford, 1993) although most empirical studies ignore the problem or report the efficiency scores alongside the calculated slacks. (TAE-007)

Turning now to integral citations, the Verb controlling types, as we have already seen, vary according to degree of evaluation conveyed in the reporting verbs used. The Naming citations contain the greater variation, perhaps, and an example in Groom's model is Example 5, which employs the 'According to...' pattern. Other forms of Naming citation are those that identify a technique, a concept, a model or a text with an author, such as the following:

a simple introduction to the theory and an application (to land price determination) of the most common testing procedures can be found in Hallam *et al.* (1992) (TAE-007)

In this case, though, the writer's proposition is an averral, and the citation is a part of the proposition, identifying a particular text, and is not acting as an attri-

TABLE 2. THE RATIO OF NON-INTEGRAL (RN) TO INTEGRAL (RI) CITATIONS IN THE AGRICULTURAL BOTANY AND AGRICULTURAL AND FOOD ECONOMICS THESES, SHOWN AS PERCENTAGES

	RN %	RI %
Agricultural Botany	67	33
Agricultural Economics	38	62

bution. The writer is giving a positive evaluation of the cited text, and recommending it as a good introduction.

In summary, then, the citation types that concern us in the present study are Source, Ident and Refer which are all non-integral, and Verb-controlling and Naming citations. The Verb-controlling, and the Ident, citations will vary in the degree of evaluation carried by the reporting verbs, and we are interested to discover whether the preference is for neutral tone, which would indicate a simple reporting of the proposition or action of others, or whether the writers prefer to convey either a positive or negative evaluation through the choice of verb. The Source citations will indicate the degree of use of plain attribution, with the functions of providing support for a point, or of identifying the source of facts and ideas in a narrative. Refer citations appear to relate to the second category in Groom's model, where the writer takes responsibility for the proposition. The Naming types are of interest where the cited authors belong to an 'According to...' pattern that comments on a clause.

#### CITATION TYPES IN THE THESIS CORPUS

Table 2 shows the ratio of non-integral to integral citations in the two sets of theses. It can be seen that in the Agricultural Botany theses, the preferred style of citation is non-integral, with the prominence placed on the information rather than the authors or researchers. The reverse is true of the Agricultural and Food Economics theses, where there is more attention paid to the names of the authors. This indicates a clear difference in orientation between the two disciplinary areas, a difference which has also been noted by Hyland (1999) in his study of citation practices in eight disciplines. The science writers prefer to focus attention on findings, while the social science writers, in this case agricultural economists, tend to foreground the researchers and the models that they have developed.

Figure 1 shows the relative frequency of use of the main citation types per 1,000 words of text. This shows very clearly the predilection amongst Agricultural Botany writers for the RN Source and RN Ident types of citation.

The Agricultural Economists make far greater use of integral Naming citations. At the same time, it should be noted that the non-integral citation type most commonly used by them is RN Source, but that overall the Agricultural and Food Economics writers make fewer citations per 1,000 words than the Agricultural Botany writers.



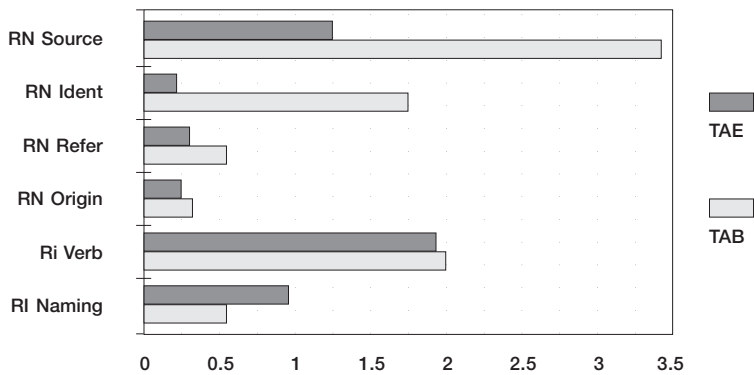


Figure 1. Proportion of citation types used in the two disciplines, using aggregated figures (instances per 1,000 words)

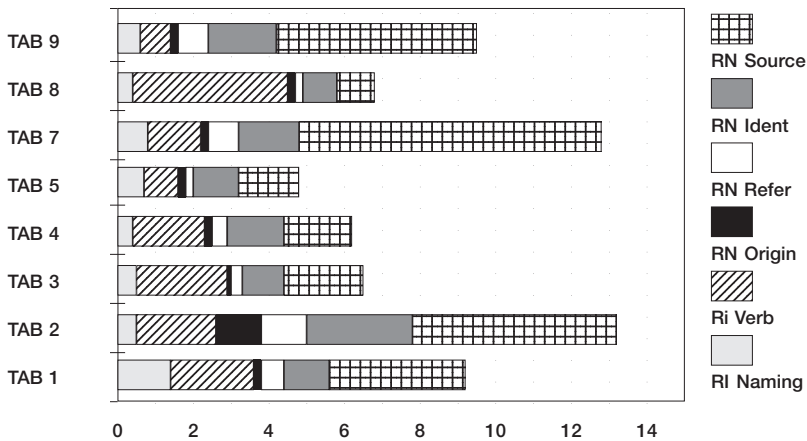


Figure 2. The average number of different citation types per 1,000 words of text found in the 8 Agricultural Botany theses.

As can be seen in Figure 2 above, the density of citations in the individual Agricultural Botany theses varies from just under 5 per 1,000 words (TAB-005) to around 13 (TAB-002, and TAB-006). TAB-008 uses Verb-controlling citation types far more than any of the other writers, and far fewer non-integral citation types. Examination of this thesis reveals that the writer makes frequent reference to individual studies and compares their findings to his own experiments (X found this, and Y reported this. My findings were...). TAB-007 by contrast, uses predominantly non-integral citation forms, and prefers to make information prominent through use of the Identification citation rather than the integral Verb controlling type. TAB-007 is a report of a laboratory-based investigation of innovative techniques for isolation of vacuoles, and therefore the emphasis is on the techniques, and the subject of study, that is, the vacuoles.

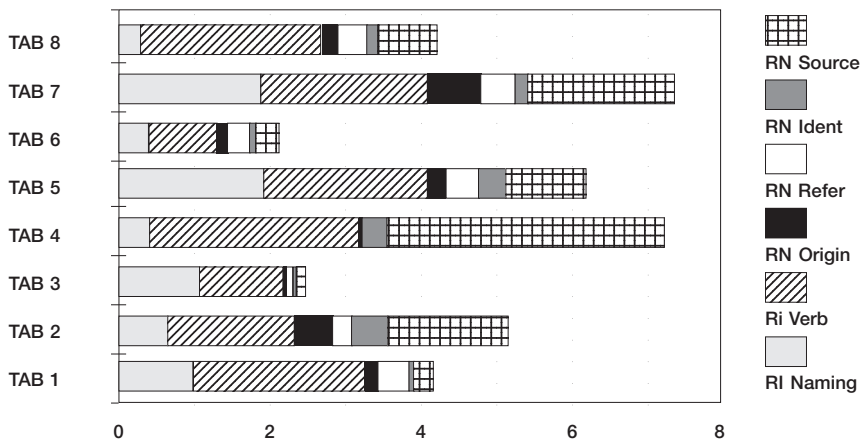


Figure 3. The average number of different citation types per 1,000 words of text found in the 8 Agricultural and Food Economics theses.

As for the Agricultural and Food Economics theses (see Figure 3), the density varies from just over 2 per 1,000 words to nearly 8 in TAE-007. This is much lower density of citation per 1,000 words (average 5.25) than is found in the Agricultural Botany theses (average 9.04), and these two averages are much lower than the densities of citation that Hyland (2000) found in his corpus of journal articles in eight disciplines. This is not surprising, as journal articles are subject to greater restrictions on length, and therefore tend to have a more condensed style than is found in theses. The lower densities in the theses also suggest that there are higher degrees of averral.

The variation between theses in Agricultural and Food Economics is perhaps even more marked than in the Agricultural Botany theses. TAE-004 is remarkable in having a very high ratio of RN Source citations, with a large number of Verb-controlling citations too and not many others, and TAE-005 and TAE-007 have a comparatively high number of RI Naming citations. TAE-001, TAE-003 and TAE-006, on the other hand contain relatively low uses of the RN Source citation. TAE-004 contains an extensive historical account of exchange rate policies in four sub-Saharan countries, which requires a large amount of references to source texts, whereas TAE-007, for example, is an econometric study that devotes much discussion to the establishment of a complex mathematical procedure for assessing costs, and there is therefore much reference to the equations, formulae, definitions and techniques of previous researchers.

Space does not permit a close analysis of the different uses of citations in these texts. After all, the 16 theses in the corpus amount to 800,000 words. What is clear from these statistics is that the profile of citation type use in these two sets of theses is markedly different. Where one Agricultural Botany thesis is a set of experiments that are compared with similar studies of a range of plants, another is an evaluation of novel techniques in a new area of research, and these two different foci

TABLE 2. CITATION TYPES IN DIFFERENT RHETORICAL SECTIONS OF AB THESES

SECTION	DENSITY (PER 1,000 WORDS)	MOST COMMON TYPES OF CITATION
Introduction	15.6	Source, Identification, Verb controlling
Methods	2.3	Refer, Origin, Naming
Results	2.4	Source (52%)
Discussion	10.1	Source, Identification, Verb controlling

lead to contrasting styles and profiles. Different writers within one discipline, then, can take different approaches to research, and their rhetorical choices are, to a degree, determined by the nature of the research that they conduct.

Within a thesis, there is, of course, variation, from one rhetorical section to another. In the Agricultural Botany theses, it was possible to divide the texts into four types of broad rhetorical section, following the conventions that are common in most scientific reports: Introduction-Methods-Results-Discussion (this was not possible with the Agricultural and Food Economics theses, which are less conventionalized). As can be seen in Table 2, there is considerable variation in the different sections of the theses, with relatively low use of citations in the Methods and Results sections of the thesis, and a markedly different set of citation types in the case of the Methods sections. To understand these variations, it is helpful to think of the hourglass model proposed by Hill *et al* (1992): the Introduction and Discussion sections of an article take a broad view, relating what is known in the field at large, while the Methods and Results sections are narrow, focussing on the research itself. While the Introduction and Discussion sections contain many references to other studies to establish the current state of knowledge and to indicate where the current report fits in, the Methods section contains mainly references to the methods and techniques of others, and we find a large number of Refer citations, in which a statement of what was done or an explanation of a particular procedure (in both cases, an averral) is followed parenthetically by a reference to another text in which greater detail can be found. There is little attribution of propositions to other authors in the Methods section, presumably because the Methods section deals mainly with a recount of the procedures taken, while the Introduction section establishes what is known already (what previous studies have shown) and the Discussion sections place the results within this broader framework of knowledge.

Turning now to look at the reporting verbs used in both sets of theses in the corpus, we find that the Agricultural and Food Economics writers use a much wider variety of reporting verbs: 171 different verbs compared to 99 different verbs used in the Agricultural Botany theses. The most commonly used verbs in either section of the corpus are shown in Table 3.

Perhaps not surprisingly, the second most common verb in both sections of the corpus is *find*. In the Agricultural Botany theses, however, *find* is often used interchangeably with *report*. If *find* and *report* are combined, this suggests that a



TABLE 3. THE TEN MOST COMMONLY USED REPORTING VERBS USED IN THE THESES. THE FIRST FIGURE INDICATES THE NUMBER OF INSTANCES OF THE VERB AND THE FIGURE IN BRACKETS EXPRESSES THIS AS A PERCENTAGE OF ALL THE REPORTING VERBS USED IN THE GROUP OF TEXTS.

AGRICULTURAL BOTANY			AGRICULTURAL ECONOMICS		
report	85	12.6	use/employ	69	7.2
find	83	12.3	find	65	6.7
show	68	10.0	suggest	49	5.1
suggest	35	5.2	describe	43	4.5
describe	33	4.9	note	38	3.9
use	28	4.1	estimate	31	3.2
demonstrate	27	4.0	provide	31	3.2
review	18	2.7	propose	28	2.9
propose	17	2.5	report	27	2.8
discuss	15	2.2	refer	21	2.2

quarter of the Agricultural Botany reporting verbs are reports of findings. Two verbs implying previously established knowledge (*demonstrate* and *show*) account for 14% between them.

In the Agricultural and Food Economics column, there are two closely related verbs, *use* and *employ*, which account for 7.2% (I have combined them in this table, as “employ” is taken to be virtually synonymous to “use” and it is only used by one writer out of the eight), as opposed to 4.1% for *use* in the Agricultural Botany theses (there are no instances of *employ*). *Use* in the Agricultural and Food Economics theses is often used in relation to equations, functions and other measurement techniques, and this is indicative of the greater tendency of the Agricultural and Food Economics theses to deal with the discussion of frameworks and methodologies.

In both sets of reporting verbs, however, the salient feature is that the verbs are all neutral reporting verbs. In the Agricultural and Food Economics theses, there are some positive verbs used, such as ‘point out’ (9 instances), but the majority of the 171 reporting verbs used are neutral.

Finally, we noted above the use of an “According to...” structure within the category of Naming citations. The findings for the corpus are remarkable: in the Agricultural Botany theses, out of 116 Naming citations, only 2 of these are ‘According to + author’, and in the Agricultural and Food Economics theses, out of 486 Naming citations, the figure is a mere 14. These figures are very low, and suggest that the types of writing expected in Agricultural Botany and Agricultural and Food Economics theses is markedly different from the writing performed by students on English language support courses such as those that Groom teaches on.



My own personal experience indicates that “According to...” is a pattern much used by novice writers, often accompanied by a direct quotation from the cited author.

### 3. DISCUSSION

As Groom emphasises, the model is intended to act as a set of loose rules, rather than to describe a set of form-function relationships. I have attempted to establish some relations between the forms of particular types of citation and the examples that he gave, and this is perhaps a crude measure, as closer inspection might show that the relationships are complex. This does, however, suggest broad tendencies, and we note in the theses a considerable use of non-integral citations, with prominence given to information in the Agricultural Botany texts. The use of Source citations in the science texts carries the voice of the writer, but accords the responsibility for the proposition (the finding, or concept) to the cited authors. Manifest intertextuality in these texts performs a range of functions, across the rhetorical sections. In the Introductions, the writers follow conventional forms of argumentation, by describing what is known already and what we still need to know, thus indicating the niche that they will fill (see Swales 1990). In the Methods sections, the literature is referred to in order to identify what methods can be used, and what the origin of particular methods is, but the primary mode of statement is *averral*. In the results, the use of citation is again restricted, but they may be occasional use of the Source type of citation. In the Discussion section, the new findings are compared with those of others, and are interpreted. The tendency to neutrality in choice of reporting verb suggest that previous studies are usually treated as unproblematic, while the *averrred* statements (no data presented here) tend towards mitigation when discussing causal relationships.

A small degree of use of positive evaluation in reporting verbs was remarked in the Agricultural and Food Economics theses, but the dominant mode is still neutral. This tendency may turn out to be specific to the genre of the research thesis, or it may be an indication of what is typical of writing in these particular disciplines. Hyland (2000) found that Philosophy journal articles, for example, were markedly different from journal articles in other subject areas in the types of citation used, and it may well be that Philosophy theses would contain far higher degrees of evaluative reporting verbs, because the style of writing is more argumentative. Similarly, a polemical thesis would also be expected to be different. It would therefore be dangerous to generalize from the findings of the present study to make statements about manifest intertextuality in theses in general.

Let us turn now to consider the pedagogical implications of this brief study. Novice writers tend to overuse one form, as Thompson and Tribble (2001) have reported. ‘According to...’ (see above) is one of the patterns that writers tend to use repeatedly in the early stages of learning to write for academic purposes. The low number of instances of this phrase in the thesis corpus suggests either that the phrase is superseded by other forms of expression, or that the writers are less dependent on the author’s voice. Quantification of the number of direct quotations in



the thesis corpus (Thompson 2000) showed that there are on average 2 direct quotations per thesis (average length 31,000 words) in Agricultural Botany, and approximately 29 per thesis (average length 63,000 words) in Agricultural and Food Economics. The low use of direct quotation, particularly in Agricultural Botany, suggests that the tendency is to use one's own words rather than those of other authors. A further possible interpretation is that the more advanced academic writer makes less use of the 5<sup>th</sup> category in Groom's model; in other words, the thesis writer is less likely to use author-monologic statements.

As Groom's paper demonstrates, novice writers can experience difficulties with understanding how to indicate averral or attribution. He suggests that, in writing argumentative texts, such writers tend to inhabit the lower half of the model, relying on the voices of cited authors, and they thus fail to make their own voice and position clear. This proposition seems to be supported by the evidence of the analysis of citation practices in the theses. For pedagogical purposes, Groom's model is a useful discovery device to use with students to make them more aware of the options available to them. They can be asked to look at their own writing and to identify their sentences as falling into one of the five categories, and then reflecting on the ratio of writer voice to author voice. Student writers also need look at examples of texts that they are expected to produce. The model, as Groom acknowledges, relates primarily to argumentative writing, and our observation of citation types in PhD theses, in two disciplines, found that citation types varied between the disciplines, and also within. If students need to produce argumentative text such as the essay that Groom's student was writing, the model is helpful. If they are working in the sciences, however, or if they are writing a research-based thesis, they should also study the uses of citation in sample exemplar texts from the same genre; the lower degrees of citation density in the theses compared to journal articles suggest that there is a higher degree of averral in the theses, and this would be an important point for students to appreciate. In a thesis, it is essential (a given, presumably) that the writer's voice is dominant. Students preparing to write a thesis should also look at how various citation types are used in different rhetorical sections, to fit the range of rhetorical purposes typically expressed in such sections as 'Methods' or 'Discussion', and to achieve an appropriate balance of averral and attribution.





## DETAILS OF TEXTS IN THESIS CORPUS

- TAB-001: C. DARWEN (1991) *A study of fructan metabolism in the Jerusalem artichoke (Helianthus tuberosus L.)*
- TAB-002: S. BERRY (1995) *Molecular marker analysis of cultivated sunflower (Helianthus annuus L.)*
- TAB-003: A.C. GRUNDY (1993) *The implications of extensification for crop weed interactions in cereals.*
- TAB-004: J.C. PETERS (1994) *Pattern and impact of disease in natural plant communities of different age.*
- TAB-005: A. JOHANSON (1993) *Molecular methods for the identification and detection of the Mycosphaerella species that cause Sigatoka leaf spots of banana and plantain.*
- TAB-007: J.J. SMITH (1993) *Biochemistry of 1-aminocyclopropane-1-carboxylate (ACC) oxidase (the ethylene-forming enzyme) isolated from ripening fruits.*
- TAB-008: P.J. HARKETT (1996) *Studies on the use of cut seed tubers for the production of potatoes for French fry processing.*
- TAB-009: G. CHAMPION (1998) *The implications of integrated farming systems on arable weed floras.*
- TAE-001: R.J. LOADER (1995) *Investigating and assessing agricultural and food marketing systems.*
- TAE-002: H.S. BECK (1994) *The economic value of long term agricultural research.*
- TAE-003: A.S. BAILEY (1996) *The estimation of input-output coefficients for agriculture from whole farm accounting data.*
- TAE-004: M.A. GADBOIS (1997) *The effects of exchange rate variability and export instability on selected exports from sub-Saharan African countries.*
- TAE-005: Y.J.G. KHATRI (1994) *Technical change and the returns to research in UK agriculture 1953-1990.*
- TAE-006: Steve L. WIGGINS (1991) *Managing the implementation of agricultural and rural development in the Third World.*
- TAE-007: D. HADLEY (1997) *Estimation of Shadow Prices of Undesirable Outputs: An Application to UK Dairy Farms.*
- TAE-008: R.M. BENNETT (1992) *The Economics of Livestock Disease Control.*

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