

A discourse analysis of master's theses across disciplines with a focus on introductions

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Abstract

There have been a growing number of discourse studies in recent years on written academic genres produced by students. However, the master's thesis has not received as much attention as the PhD dissertation. This investigation of master's theses from three disciplines, biology, philosophy and linguistics, employs both discourse analysis and interviews with subject specialists. An analysis of the overall organization of the thesis with a focus on the structure of introductions reveals discourse features that distinguish this genre from research articles and also points to disciplinary variation within this genre. An analysis of the use of citations and the first person pronoun in the introductions shows that philosophy students create a much stronger authorial presence but establish weaker intertextual links to previous research than the biology students do in these texts. The linguistics students occupy a more central position in terms of these dimensions.

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1. Introduction

In the last three decades the field of genre analysis has seen a great number of studies on written academic genres, especially the research article (e.g., Hyland, 2000; Swales, 1990, 2004). The studies on research articles have explored both the discourse structure of various sections in this genre, such as the discussion section (Hopkins & Dudley-Evans, 1988; Yang & Allison, 2003), as well as patterns of use of linguistic features. Some recent studies have also revealed disciplinary and cross-linguistic variations within this genre (e.g., Ahmad, 1997; Hyland, 2000, 2001, 2002; Mauranen, 1993; Samraj, 2002a).

Another area of study growing in importance is the writing of graduate students, which falls into two broad groups. One set of studies has explored the socialization of graduate students into various disciplinary communities and has revealed the situated nature of the acculturation process, especially of doctoral students seeking to become legitimate members of different disciplinary communities (Belcher, 1994; Berkenkotter, Huckin, & Ackerman, 1991; Casanave, 1995; Prior, 1998). A second set of studies has emphasized the discourse analysis of texts, mainly the

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PhD thesis/dissertation, produced by these students (e.g., [Bunton, 2002, 2005](#); [Dong, 1998](#); [Ridley, 2000](#); [Swales, 2004](#); [Thompson, 1999, 2001, 2005](#)). However, very few studies have focused on the structure of the master's thesis. Such studies have been motivated by the need to create relevant EAP material for master's students, who will not usually be involved in the writing of research articles ([Dudley-Evans, 1994, 1999](#)). Some studies of master's theses have explored the organization of certain sections of this genre such as introductions and discussion sections ([Dudley-Evans, 1986](#)) and conclusions ([Hewings, 1993](#)). These studies have tended to focus on texts from single disciplines produced in some British institutions and have used a small number of texts for analysis, although a more recent study by [Paltridge \(2002\)](#) analyzes the overall organization of both master's and PhD theses from a number of disciplines produced at a major Australian research university. Previous studies on master's theses have not drawn on the views of subject specialists concerning the purpose and nature of this genre in different disciplines, and, while these studies have provided us with a preliminary understanding of the generic structure of master's theses, they have not systematically analyzed disciplinary variation in this student-produced genre. Recent research in academic writing has revealed much on disciplinary variation but few studies have examined disciplinary variation in writing produced by graduate students ([Prior, 1998](#); [Samraj, 2000, 2002b](#)).

One feature of academic writing, among many, that has been shown to vary along disciplinary boundaries is the use of intertextual links where authors seek to present their contribution to knowledge as part of an ongoing disciplinary conversation through their selection of references to previous research. An author's contribution is not usually presented in a disciplinary vacuum but as relevant to the research questions pursued by other researchers in that disciplinary field. Studies of introductions in research articles and PhD theses have made it clear that a crucial rhetorical function of introductions is to justify the study being reported ([Bunton, 2002](#); [Swales, 1990](#)). We would expect the use of references to previous research to be an integral part of realizing this rhetorical function of master's thesis introductions.

Another related feature of academic writing shown to vary across disciplines is the use of the first person pronoun to establish authorial presence ([Hyland, 2001](#)). Research article writers have been shown to use the first person pronoun for a number of discourse functions, mainly to state the goal or purpose of the paper, to outline procedures carried out and to make a knowledge claim ([Harwood, 2005](#); [Hyland, 2001](#); [Kuo, 1999](#)). However, undergraduate writers have been found to make much less use of the first person pronoun, and to use it for a narrower range of functions in discourse ([Hyland, 2002](#)). [Tang and John \(1999\)](#) point out that the undergraduate students they studied use the first person pronoun in ways that do not establish a strong authorial presence. [Hyland \(2002\)](#) shows that the disciplinary variation in self reference noted in published writing is blurred in novice student writing and concludes that the undergraduate students studied have not been socialized into the epistemological practices of their individual disciplines.

Master's theses appear to be an essential part of most master's programs in the U.S. and are produced at the culmination of master's programs comprising around two years of coursework. However, there has been, to date, no study on this common student-produced genre in the U.S. As such, a study of the master's thesis produced in U.S. universities can inform us on a student-produced genre that fills a place somewhere in between student-produced course papers, on the one hand, and published research articles, on the other, in a taxonomy of academic writing. A genre analysis of master's theses that also draws on subject specialist views can shed light on the nature of this student-produced genre in terms of its discourse structure and its place among different kinds of academic writing. The findings from such a study can be utilized in EAP courses to facilitate the production of this genre by master's students. This paper reports on a study of master's theses from a cross-disciplinary perspective using both textual and interview data.

This paper draws its data from a larger on-going study to focus on the structure of introductions, since previous research has pointed to the rhetorical salience of this genre element in research articles ([Swales, 1990](#); [Swales & Najjar, 1987](#)) and dissertations ([Bunton, 2002](#)). Like doctoral students in previous studies, master's students are purportedly reporting original research and the introduction is a site where the interplay of the student's agency in the research being reported and the role of previous research is manifested. Therefore, the use of the first person pronoun to create authorial presence and the use of citations to construct intertextual links to previous research in these introductions will be explored.

2. Methods

The data consist of twenty-four theses produced at a large public university in the U.S, eight each from philosophy, biology, and linguistics. The three disciplines were selected as examples of the sciences (biology), social sciences

(linguistics) and humanities (philosophy). The biology theses are from the sub-discipline ecology and those from linguistics are from applied linguistics.¹

The theses were first analyzed for some general features, such as their overall organization. This was followed by a detailed examination of the introductory sections using the “Create-a-Research-Space” (CARS) model developed by Swales (1990, 2004) in terms of moves and steps. In order to explore intertextual links, the thesis introductions were analyzed for the number of citations used and whether these citations were integral, where the name of the cited author appears in the citing sentence, or non-integral, where the author appears in parenthesis or a footnote (Swales, 1990). The citations were also analyzed for the manner in which they were incorporated into the text, that is, as a direct quotation, summary from one source or a generalization from two or more sources (Hyland, 2000). The use of the first person pronoun in its various forms (subject, possessive, reflexive) was examined in the three sets of texts. The rhetorical moves in which the pronoun appeared and the particular discourse function for which the pronoun was employed were also noted in the analysis.

In addition to the discourse analysis, semi-structured interviews were conducted with two to three professors from each discipline, who had some experience directing master’s theses, regarding their beliefs about the structure and function of master’s theses produced in their departments. Each interview lasted between 60 and 90 minutes and was tape-recorded and transcribed. Though the interviews were organized around a set of prepared questions (given in Appendix A), they proceeded in different directions depending on issues that were raised by the interviewees. The questions asked in each interview pertained to general overarching issues such as what constituted a good master’s thesis in the discipline, and more specific concerns such as the structure of an introduction.

3. Results and discussion

3.1. Overall organization of thesis

The macro structure of the biology thesis generally follows the Introduction-Method-Results-Discussion (IMRD) structure of a research article (Swales, 1990). These biology theses have what Dudley-Evans (1999) labels the traditional format. The philosophy theses, on the other hand, do not have such a clearly demarcated macro structure. All have introductory and concluding chapters but the intervening chapters have a topical organization determined by the philosophical issue or argument being discussed, resulting in a structure that Paltridge (2002) refers to as a topic-based thesis. In addition, none of the theses has a separate literature review section or chapter, which is found in most of the linguistics theses. Of the eight linguistics theses, two clearly have an IMRD structure, two have a modified IMRD structure (where the results are discussed in two chapters with topical headings), and four can be said to loosely fall into the topic-based thesis discussed by Paltridge (2002). In these cases the introduction is followed by a number of chapters each with a particular topical focus similar to the philosophy theses. Often this sort of thesis reports the creation of a product, such as suggestions for a new speaking assessment. Three of the linguistics theses have separate literature review chapters, and three theses have a literature review section at the end of the introductory chapter.²

3.2. Structure of introductions

A modified version of Swales’ (1990) CARS model for research article introductions (see Table 1) was used as the basic framework to analyze these introductions. It should be noted here that the CARS model has been frequently employed in the analysis of research article introductions from different disciplines (e.g., Samraj, 2002a), and languages (e.g., Ahmad, 1997), as well as introductions in other academic genres such as PhD dissertations (e.g., Bunton, 2002), and the model has been somewhat modified in light of the results of these studies.

According to Swales’ (1990) model, introductions often begin with a move that establishes the general topic being discussed. Writers then create a niche for themselves within this territory in a number of ways. Finally, the authors discuss the particular goals and research questions of the study reported. The model used here, following Samraj

¹ There are no specializations within the master’s program in philosophy.

² These literature reviews were not included in the analysis of the introductions.

Table 1
Move structure in thesis introductions

	Philosophy	Biology	Linguistics
Move 1			
Claim centrality	1	6	6
–importance in real world	0	4	4
–importance in research	1	2	2
Review literature or present topic generalizations	6	5	3
Total*	6	8	6
Move 2			
Indicate a gap/question in research	1	5	5
Indicate problem in the real world	3	3	5
Positive justification	1	3	3
Total*	4	7	8
Move 3			
State goals/argument of thesis	7	7	8
Background	0	6	1
Present hypotheses	0	5	1
Present results	N/A	0	0
Preview organization of thesis	7	0	7
Total*	7	8	8

* The numbers indicate the number of theses that had at least one instance of a particular move or step.

(2002a), varies from Swales' (1990) CARS model in a few ways. The differences will be noted as the results are discussed below. The organization of the introductions in philosophy, biology and linguistics will be discussed in turn. A discussion of the views of faculty members regarding the introductions in theses in each discipline will be presented before the results of the analyses.

3.2.1. Philosophy introductions

According to the philosophy professors, the introductions to philosophy theses are designed to present a philosophical issue or problem and establish a connection between this problem or issue and the relevant existing literature. The introduction should also present the resolution of the problem and the organization of the thesis. If we look at the schematic framework offered by Swales, it is clear that the subject specialists' views do not match this framework.

According to the CARS model, introductions begin by establishing the importance of the general topic within which the research being reported is situated. This is accomplished by providing centrality claims, generalizations key to the area of interest or a literature review relevant to the topic. Centrality claims seem to be made either by "assertions about the importance of the topic being discussed or by assertions concerning active research activity in the area concerned" (Samraj, 2002a, p. 4). As noted in an earlier study of research article introductions (Samraj, 2002a), it is often difficult to distinguish between topic generalizations and reviews of previous research since the difference between these two steps seems to be one of specificity and the use or non-use of citations. Swales (2004), in his most recent revision of the CARS model, has removed "review items of previous research" as an independent step from Move 1. Therefore, in my analysis, I have collapsed the two steps.

The structure of introductions in the philosophy theses is somewhat complicated by the presence of a preface in five out of the eight theses. Analysis of these part-genres indicates that the preface contains at least one or more moves that are commonly found in introductions so a particular introductory move, such as statement of goal, might be found in the preface instead of the introduction. In other cases, the same moves may be repeated in both the preface and introduction, albeit with different degrees of development.

Six of the eight philosophy theses begin with the move “establishing a territory” (see Table 1 for results). The students in these introductions make a statement about the philosophical thought, philosophical text or philosopher to be discussed in the thesis, as in the example below:

1. The *Theaetetus* by Plato, by most accounts a ‘late’ dialogue, considers the question “What is knowledge?” Its first section (roughly 145c–186e) is nominally dedicated to the evaluation and rejection of *Theaetetus*’ claim that “Knowledge is perception” (*Theaetetus*, 151 e1). (Phil; KK)³

Unlike the first move found in research article introductions, these beginnings don’t necessarily assert the *centrality* of what is being discussed. In addition, this first move does not generally delineate previous research on the philosophical topic being addressed, resulting in a paucity of references to secondary sources. If any references appear in the first move, they are to primary philosophical texts such as the *Theaetetus* by Plato, which are the object of inquiry, as in the example above.

Half the introductions contain a discussion of a philosophical problem or raise a question about a philosophical text, which has a rhetorical force similar to that of Move 2 in the CARS model, where a niche is established by counter-claiming, indicating a gap, raising a question or continuing a tradition (Swales, 1990). When student writers establish a niche for themselves, they mostly present a philosophical problem, which is generally a problem in society either identified by the student or those identified by other philosophers. In example 2, the writer presents the problem of modernity in a thesis titled “Pop modernism and millennial aesthetics”:

2. Modernity is expressed most problematically by Heidegger who saw progressive technological development as “uprooting” man from his “essence.” ... Human “progress” through scientific knowledge and technical achievement was the order of the day, as well as the primary philosophical problem. (Phil; GC)

The philosophical problems serve as the justification for the argument presented in the thesis. Importantly, in these data a gap in the literature is never employed to justify the study presented in philosophy thesis introductions. Furthermore, only a minority of the texts refer to previous research on the philosophical issue to support its importance in the field. When one of my subject specialists was asked how one justifies the selection of an interesting problem for exploration in a master’s thesis, he stated that a “problem is not a problem because of other work in the area.” The absence of disciplinary pressure to situate the current study within a body of related studies probably explains the dearth of intertextual links in philosophy thesis introductions.

The third move in Swales’ (1990) model, in which the goal and organization of the thesis are given, is present in all but one of the philosophy introductions, where the goal is stated in the preface. The first step in this move, the goal of the thesis, is the student’s line of argument with regard to the philosophical issue being discussed, such as in example 3 below. In some cases the line of argument is a solution to what has been presented earlier as a philosophical problem:

3. I will argue that the Nietzschean educational project is concerned with the education of a self-creative individual. This, at first, seems a paradoxical proposition. Charges of self-refutation hover like vultures over such assertions. The fact remains, however, that as educator Nietzsche sought to educate in his reader/student a creative engagement with his or her own life and valuations. As we will see, this will necessitate an eventual challenging and attacking of one’s own teacher, and Nietzsche does not exclude himself. (Phil; BT)

In the philosophy introductions, it is difficult to distinguish between the two steps, announcing purposes and announcing principal findings, because of the nature of research in this discipline. The “principal findings” can be analyzed as the purposes or goals of the work because what is argued by the student is also the major “finding” or contribution to the disciplinary conversation, resulting in a conflation of these two steps of Move 3. Move 3 in the philosophy introductions also consistently contains a preview of the organization of the thesis, probably due to an absence of “an established IMRD-like sectional arrangement” (Swales, 2004, p. 23).

³ Excerpts from theses are labeled according to discipline and author initials, and have not been edited.

The discourse analysis shows that the specialists' notions of the structure of thesis introductions do not completely overlap with the Swalesian model and what is actually found in the texts. Specifically, the philosophy professors believe that the introductions state a problem, connect the philosophical problem with the established literature, provide an argument or solution, and give the organization of the thesis. However, most master's theses include an introduction to the topic usually without much reference to previous research, a statement of the goals of the thesis, which may be a philosophical argument or a solution to an identified philosophical problem, and an overview of the organization of the thesis.

3.2.2. Biology introductions

In contrast to the philosophy specialist informants, both the biology professors interviewed offered a description of a thesis introduction that was akin to the CARS model. One professor described it as the following: "Here's what's been done, here's the gap and here's how I'll fill the gap."

The first moves in the biology thesis introductions are different from those in the philosophy theses in at least two ways. First, the topic generalizations made are often supported by references to previous research. Second, centrality claims, which establish the importance of the area of research, are also found in this first move. Twice as many thesis introductions contain centrality claims that assert the importance of the phenomenon under consideration in terms of the real world instead of assertions regarding research activity. Example 4 illustrates the less common research centrality claim, where the area of study is deemed important through a statement of the value of the research tool being employed in the study:

4. Information gained from protein electrophoresis has been shown to be a valuable systematic tool (Avisé, 1975; Ayala et al., 1974; Gyllensten et al., 1983; Selander & Johnson, 1973; Shaklee et al., 1982; Templeton, 1980). It has been observed that analysis of relationships between and within species based on electrophoretic data correspond closely with classifications and phylogenies independently derived from morphological, cytological, ecological, and behavioral data (Avisé, 1975). (Bio; CJ)

Move 2, which establishes the niche, is also commonly found in the biology thesis introductions. In contrast to the philosophy theses, five of the introductions establish the niche by showing a gap in previous research. Two of the introductions with a research gap also strengthen their justification for the study by describing environmental problems.

Analysis of research articles from wildlife behavior (Samraj, 2002a) has revealed that authors may not just provide motivation for the research to be reported in terms of the shortcomings of previous research or dire needs in the environment but also in terms of the positive aspects of the current study. Three biology introductions in these data exhibit this pattern and explicate the strengths of the study reported. These instances of "positive justification" always appear together with the more common gap in the research or real world. An example of this step is provided below:

5. It is important to understand the influence of sesiid moth larval damage to buprestid beetle attack on arroyo willow, because their combined damaging action may affect important qualities of the arroyo willow canopy at Lake Kumeyaay, such as size and shape.... Management of planted arroyo willows could be improved by understanding the dynamics of buprestid beetle attack on previously injured branches, possibly providing an insect indicator of tree and branch health (Williams, 1993). (Bio; SP)

As expected, the third move is present in all the thesis introductions. In addition to the goals of the study reported, more than half the texts often include a set of hypotheses or predictions such as those in the example below:

6. The following hypotheses were tested:
 I. Relative abundances of Prokelisia dolus are related to host plant quality.
 A. Relative abundances of Prokelisia dolus will increase with increasing Spartina foliar nitrogen levels.
 B. Relative abundances of Prokelisia dolus will increase with increasing Spartina cover. (Bio; KJ)

Announcements of principal findings and a preview of the organization of the thesis, which is commonly found and well developed in the philosophy theses, are absent in the biology introductions. The findings from this study indicate that the length of the text does not determine the presence of this step that previews text organization, a kind of textual

metadiscourse (Mauranen, 1993). Instead, the determining factor is the extent of variation in the organization of the whole text. The fact that the biology theses follow a fixed overall organization makes this step unnecessary.

Often, after a statement of the purpose or goals of the thesis, there is a long exposition on the species or site that is the focus of the study. In these discussions the student writers appear to be displaying their knowledge of the field through numerous references to the literature. Components of the epistemic world such as the researcher and research procedures (MacDonald, 1994) are not foregrounded as sentence subjects in these descriptions. Rather, the actual phenomenon being studied is the focus of the discussion, as seen in example 7:

7. Spartina foliosa is a dominant plant of southern California salt marshes. An abundant herbivore of Spartina foliosa in California is the planthopper, Prokelisia dolus (Homoptera: Fulgoroidea: Delphacidae). Homoptera generally increase in abundance following the application of nitrogen fertilizer to host plants (Heathcote, 1974; Power, 1987; Prestidge, 1982; Vince et al., 1981; Webb and Moran, 1978) (Bio; KJ)

This step, which I have labeled “background,” is found in six thesis introductions and leads to a statement of the goals of the study in more specific terms. In some cases the hypotheses being tested by the study are only listed after this site/species description. This step then enables a further specification of the goals of the study reported. It should be noted that this background discussion is analyzed as part of the introduction rather than a separate literature review because this discussion ends with a return to a crucial step of the third move, namely, stating the goals of the study in more specific terms.

3.2.3. Linguistics introductions

The three subject specialists from linguistics articulated somewhat different views on the organization of thesis introductions. One informant, whose own research area lies within genre analysis, referred to the CARS model as “working for almost every thesis.” The description of introductions offered by the second faculty member interviewed bears a general resemblance to the CARS structure of research article introductions since she stated that she tells her students to “describe in very general terms ... what has been done, what needs to be done and the part that needs to be done that they are going to do.”

The third linguistics professor provided a different description of thesis introductions as a text having two parts — “the first is a statement of what the thesis is accomplishing and the second is why, what relevance that has and to whom.” There appears to be some dissonance between the views of this faculty member and the common structure of research article introductions.

Six of the eight texts assert the centrality of the topic either in terms of research activity or the world, although the second strategy is more common. In example 8, the author of a thesis on the socialization of graduate students into their chosen discourse communities clearly states the importance of this process for success in the real world:

8. In order to succeed in graduate school, students must not only be able to follow explicit instructions for writing tasks but also be able to understand other requirements of the writing task that are implied. Acquiring these skills is central to the students’ socialization in the academic discourse communities of their fields of study. (Lings; KB)

A noteworthy feature of the first move in the linguistics introductions is the infrequency of topic generalizations beyond the centrality claims. Only three introductions contain generalizations about the topic at hand with no explicit assertions of the topic’s significance. However, most of the linguistics theses include a separate literature review section in the first chapter after the end of the introduction or a separate literature review chapter, which may explain the lack of topic generalizations in the introductions per se.

Of the introductions from the three disciplines, it is only those from linguistics that consistently have at least an instance of the second move, which provides justification for the study being reported. This is in contrast to the introductions in philosophy where only half the students problematize the topic under consideration (or raise a question). The number of introductions which explicate a gap in previous research is similar in both the linguistics and biology texts, and only a few of the introductions from linguistics (just as is the case in biology) develop a justification for the study being reported both in terms of deficiencies and/or scarcity in previous research

(Lewin, Fine, & Young, 2001) and in terms of problems in the real world as in the example below from a thesis on “Thai as a Less Commonly Taught Language”:

9. This thesis is significant because Thai is one of the rarely taught “exotic” languages, a “less commonly taught language” (LCTL). This is exemplified by the lack of attention by linguists and the lack of recent research, as well as by the lack of Thai language textbooks written in English. However, for people who plan to visit Thailand for personal pleasure or business purposes, not only can learning Thai be fun and challenging, but also knowing Thai will make their visit to Thailand much easier. (Lings; QC)

In this introduction, the student justifies her study of Thai by pointing to the “lack of recent research” and also the real world problem of Thai not being taught (in the U.S.). In addition, the writer also employs the strategy of a positive justification given in the last sentence in the excerpt for writing a thesis on the structure of Thai. This step of positive justification is found in three introductions accompanied by statements of real world or research gaps.

A statement of the goals of the thesis is found in all the introductions from linguistics. Unlike the biology introductions, only one text includes a list of hypotheses and a background discussion. A preview of the thesis structure is also very common in the linguistics introduction, again in contrast to the biology introductions. Although these previews make the linguistics introductions similar to those from philosophy, they often are not as developed as those in the philosophy texts that discuss at considerable length the arguments to be presented in each chapter. An absence of a report of the findings from the study is another similarity between the linguistics and biology texts.

3.3. Analysis of citation patterns

The student writers in the three disciplines employ references to previous research to varying degrees in the introductions of their theses. As has been mentioned earlier (Samraj, 2002a), reference to previous research is not just a feature of the first move in introductions but is found throughout the introduction (and, of course, the rest of the thesis). Table 2 provides the results of the number and type of citations found in thesis introductions across the three disciplines. It should be pointed out that in the philosophy theses references to texts that were being analyzed as part of the study, such as Plato’s *Theaetetus*, were not included in the count of citations since the text and the philosopher being referred to are the object of inquiry in the study and are not being mentioned in order to establish continuity with on-going disciplinary discourse.

As the results in Table 2 indicate, there is a remarkable difference in the number of citations found in the introductions from the three disciplines. Biology thesis introductions have more than 15 times as many citations per introduction than the philosophy introductions do. Interestingly, three of the philosophy introductions do not contain any reference to previous research although references to other sources are found in other sections of these theses. As the analysis of the overall organization of the introductions indicated, none of the philosophy theses justifies the study being reported in terms of a gap in previous research. The relative paucity of references in philosophy thesis introductions is, therefore, not surprising. The relatively low frequency of citations in the linguistics introductions can be explained in part by the separate literature review sections and chapters found in a number of theses, which were not included in the analysis because they were presented as separate structural units.

The biology introductions not only have the greatest density of citations but also include a larger number of generalizations based on multiple sources. The biology texts also have the highest proportion of non-integral citations (88%), where authors of previous research are not foregrounded in the text. Therefore, although the biology theses make the greatest number of references to previous research, each reference in itself is not given textual prominence. Rather, the generalized results from previous research are foregrounded. The two results, the proportion of

Table 2
Frequency of citations in thesis introductions

	Non-integral	Integral	% of Generalizations	Total citations/Average per thesis
Philosophy	9 (28%)	23 (72%)	13	32/4
Biology	299 (88%)	58 (12%)	61	496/62
Linguistics	140 (74%)	50 (26%)	45	190/23.8

generalizations to summaries, and the proportion of integral to non-integral citations, can be said to be related. Writers are not likely to place multiple authors in subject position (the most common syntactic position for integral citations in this set of texts) and will more likely place multiple authors in non-integral constructions. On the other hand, in philosophy, although a rather sparse number of references are made to previous research, the authors of previous studies enjoy a prominent role in the introductions.

The patterns in citation use in these master's theses from the three disciplines, in terms of the density of citations and the prominence given to individual authors, are not entirely similar to disciplinary variation in academic attribution seen in published research articles (Hyland, 1999, 2000). In Hyland's (2000) data, the philosophy texts had a higher citational density than those from biology and applied linguistics, which does not parallel the findings from this study. However, Hyland also found that non-integral citations characterize writing in biology while philosophy articles were marked by a higher proportion of integral citations. Quotations were also never found in research articles from biology, which again was the case in the biology theses.

The analysis of citation use in these masters' theses has revealed a clear pattern of confluence of several features. The texts with the greatest number of citations are also the ones that contain the largest proportion of non-integral citations and generalizations from multiple sources while the texts with the least number of citations are also the ones with the greatest proportion of integral citations, where authors of previous texts are strongly present in the current text. Interestingly, biology theses, which make the greatest intertextual connections to relevant previous discourse, background the agents of this discourse while foregrounding the object of inquiry through the use of non-integral citations.

3.4. Use of the first person pronoun

The use of the first person pronoun is interestingly different across the three sets of master's theses. It is not surprising that the first person pronoun is most frequent in the philosophy master's theses, supporting the results from Chang and Swales' (1999) study. Six of the philosophy thesis introductions have at least one instance of the first person pronoun in contrast to four theses in biology and only three in linguistics: there are 64 occurrences in philosophy compared to nine in the biology texts and 19 in the linguistics introductions (see Table 3). In contrast to Hyland's (2002) findings from the analysis of L2 undergraduate student texts, the results from the analysis of master's students' writing indicates that these graduate student writers do reflect, to a certain extent, the variations in discursive practices exhibited by more established members of disciplinary communities. In other words, these graduate student writers appear to have been socialized to a certain degree into the epistemological practices of their respective disciplines for establishing authorial presence in their academic writing.

In all three disciplines most of the usages of the first person pronoun are found in the third move of the introduction where the writers occupy the niche they have created. In philosophy and linguistics theses the first person pronoun occurs in statements which assert the goals of the study and preview the organization of the thesis, as in example 10 below:

10. In Chapter III I will describe the published language materials utilized for this study and discuss their limitations which prompted the use of human subjects. I will then introduce these informants, the pedagogical orientation that supports the lexical focus, and the vocabulary, sentence patterns and verb tenses that I obtained. (Ling; MS)

In example 10 from a linguistics thesis the use of the first person pronoun appears to be "largely metadiscoursal" (Hyland, 2002, p. 1101). In the biology theses, although there are few instances of the use of the first person pronoun,

Table 3
Frequency of the first person singular pronoun in thesis introductions

	Move 1	Move 2	Move 3	Total
Philosophy	1	16*	47	64
Biology	1	0	8	9
Linguistics	0	1	18	19

* Most of the instances appeared in one thesis.

the pronoun usage portrays the student as an agent in the research process, even making predictions to be tested by their study as in example 11:

11. I predicted that EPP could occur in least Bell's vireo based on the asynchronous nature of breeding, mate switching (potentially preceded by an EPC as a form of mate appraisal) and the visually occluded habitat in which they nest. To determine whether last Bell's vireos engage in EPC, I performed DNA fingerprinting on selected parents and their offspring from three populations of vireos in San Diego County, California. (Bio; OS)

So, although on the whole, the biology master's students background their personal role in the research process, there are rare but noteworthy occasions where the use of the first person pronoun reveals that the biology students are not completely disconnected from the research they are reporting. In fact, the students portray themselves not just as agents conducting scientific procedures but also as agents making scientific decisions.

As might be expected, the use of the first person pronoun is somewhat different in the philosophy thesis introductions. The difference in density of usage is also paralleled by a difference in the type of authorial presence established. The first person pronoun is used to present the arguments of the student writer, among other discourse functions, thereby establishing a strong authorial presence, similar to what has been noted in earlier work on philosophy research articles (Chang & Swales, 1999). This is illustrated in example 12:

12. I will argue that the Nietzschean educational project is concerned with the education of a self-creative individual...I will argue that such aphorisms are a stylistic choice Nietzsche makes in order to present various perspectives that do not burden the student with a new system, but rather allows her to consider various perspectives...I argue in the second chapter that the numerous and varied critiques serve the educational project by clearing away the landscape of conventional ideas. (Phil; BT)

The above example stretches over several pages but illustrates a number of points about the use of the first person pronoun. First, it shows clearly the writer aligning himself with the argument presented in the thesis. Second, even when the writer is presenting an overview of the thesis, the writer establishes a strong authorial presence because the organization of the thesis is presented in terms of the parts of the main argument. Therefore, although most of the uses of the first person pronoun are found in the third move of the introduction, the author's intervention in the text is not merely metadiscoursal because of the nature of studies in this discipline, in which the author argues for a particular position with regard to a philosophical issue.

To date, most of the studies on academic discourse have not considered the use of citations and the first person pronoun together. However, an analysis of both linguistic features can shape our understanding of the interaction between use of previous research and the author persona created. The choices made with regard to these two dimensions of text construction influence the kind of focus the academic text ultimately has (see Table 4).

The philosophy and biology master's theses vary the most in terms of these dimensions, while the linguistics theses occupy a more central position. In philosophy, the master's thesis writers take on a similar kind of authorial presence as do the authors of previous research, as indicated by the high incidence of the first person pronoun and integral citations. Yet, the students' contributions to the discipline are not built on previous research to the same degree as those in biology or linguistics, as manifested through the infrequency of references. In contrast, in biology, the object of inquiry is foregrounded rather than the voices of either the students or other researchers responsible for what is known in the field. However, the object of study is made central through the links established to previous research in the same area. In biology, there is a weak author presence with a strong intertextual connection. The reverse is true in

Table 4
Relationship between student and other researcher presence

	Student's presence	Other researchers	Frequency of references	Object of inquiry
Philosophy	High	Foregrounded	Low	Backgrounded
Biology	Low	Backgrounded	High	Foregrounded
Linguistics	Medium	Neither	Medium	Neither

philosophy, where there is a strong author presence but a weak intertextual connection. Linguistics master's theses seem to provide what appears to be a balance between both author presence and intertextual connections.

4. Concluding comments

This study sought to explore a genre that has been relatively unexplored in genre studies and the disciplinary variations within the genre. As Hyland (2000) states in his book *Disciplinary Discourses*, published texts are the most concrete realization of the social practices of academic writing. Student-produced texts, especially those produced by “quasi” members at the end of a master's program, do not completely embody the discursive practices of the disciplines. However, as the results of the present study have indicated, master's theses also do not constitute a homogeneous set of texts. Instead, they reflect some disciplinary variations. As far as the organization of the whole thesis is concerned, biology theses consistently have the IMRD or traditional structure ascribed to research articles. Philosophy theses, on the other hand, consistently portray the topic-based organization. Linguistics theses show themselves to contain the most intradepartmental variation, indicating that some disciplines may accommodate more textual variation than others.

The biology and linguistics thesis introductions are fairly similar in their rhetorical structure with differences mainly in the last move where the current research is introduced. The only noteworthy variation is the presence of a list of hypotheses and a background discussion of the species or site being studied in the biology texts. The organization of the philosophy introductions reveals that the writers do not commonly justify their philosophical argument in terms of previous research in the selected area. The introductions resemble a problem-solution text in some cases with the solution being the argument being presented by the student. In both biology and linguistics, the master's thesis research is generally justified in terms of previous research, even if the centrality of the general topic being addressed may often be explicated in terms of real world concerns.

The master's theses across these three disciplines vary in the degree to which the student's work is related to and justified by previous research. This is clearly shown both in the analysis of the organization of the introductions and in the analysis of citation use. These three sets of texts also differ in the foregrounding of the student's voice and the voices of the authors of previous research, with the student's persona being more strongly presented in the philosophy texts than in the other two sets of texts.

This preliminary study of master's theses produced in the U.S. at the culmination of a master's program has given us some understanding of the student-produced genre. The IMRD structure is a fairly common macro-structure of master's theses in some disciplines. This is in contrast to recent findings of the structure of PhD theses (see Swales, 2004 for a review), where this was not the case. This study has also indicated that it is possible to equate some departments, such as biology, with a particular thesis organizational structure. Again, this is in contrast to claims about the PhD dissertation (Paltridge, 2002; Thompson, 2001).

The introductions in master's theses have also been shown to vary in interesting ways from those in research articles. The findings from this study can be employed in the development of courses in academic writing for master's level students. Students can be instructed on not just the structure of thesis introductions but also the ways in which intertextual links and author persona are created in this genre.

Finally, this study has suggested that master's thesis writers do seem to have acquired some of the discursive values of their discipline as seen through the variation in text structure in the three sets of texts. Importantly, the theses vary in the kinds of justification provided for the studies undertaken, the degree to which the reported study is explicitly tied to previous research, the prominence given to authors of previous research and the establishment of author persona. This study only considered theses from three departments at one university and a study including theses from other disciplines would certainly add to our knowledge of this genre.

Appendix A.

Questions used in interviews with faculty informants:

1. How many theses have you supervised (directed and otherwise) in the last five years?

2. What is a good thesis in your discipline? What makes a poor thesis in your discipline? Give examples of good and poor theses supervised by you in the last few years.
3. Average length of thesis?
4. Number of chapters?
5. Organization of thesis?
6. How many references?
7. What sorts of references? Books, journal articles, primary texts?
8. How are introductions structured?
9. What makes a good conclusion? What's the end point of a thesis?
10. What about the literature review? Do you have a separate chapter for this?
11. Is there a methods section? Does a study need to be set up?
12. What sorts of problems do students have with writing a thesis? Problems with the literature review? Argumentation? Situating the study? Problematizing the study? Connecting the results to other studies? Generalizing from results? Pointing out implications? Analysis of results?
13. Do master's theses get turned into research articles? What journals are targeted?

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