Genre-based pedagogy for design-oriented theses in postgraduate design education

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Academic design research currently produces a range of traditional and alternative doctoral outputs integrating writing and project-based components. While other academic fields, including architecture, have achieved sufficient disciplinary consensus that academic writing may be characterised in textbook guides, this is not yet the case in the newer design disciplines. Although there may be humanistic and creative resistance to the conventionalisation of academic design discourse and the perceived loss of academic freedoms this entails much can be gained by writing with an eye to models of good practice. Genre-based approaches to academic writing, including thesis writing, are firmly established in applied linguistics and composition studies. In disciplines with stable research paradigms, such as experimental science, the rhetorical and linguistic conventions for academic genres are well documented and accepted among the relevant discourse communities. This is not yet the case in emerging design scholarship where visual and textual modes of presentation jostle with creative project outcomes. Although postgraduate design education lacks the genre stability of other disciplines a growing corpus of academic documents, including digital theses in the design disciplines now allows some preliminary analysis and conclusions to be drawn about the textual production of knowledge in design. Given the pedagogical value of modelling in teaching writing in the current multicultural environment of Australian higher education, such findings have implications for design education. This paper reviews the genre-based approach and examines research proposals and thesis texts from design as a potential source for teaching at the postgraduate level. The paper suggests that the supervision and writing process for design educators and students can be facilitated by genre-based approaches to analysis and teaching, which is exemplified here.
Academic genres as rhetorical tools and socio-historical practices

Academic genres, including the thesis and dissertation, are central to disciplinary enculturation of students in academic institutions (Becher, 1981). As such genres can be seen as key material and symbolic tools in student participation in the research practices of academic communities of practice (Lave & Wenger 1991). In the last twenty years, four theoretical and applied approaches have been particularly influential in examining and defining the centrality of written academic genres as social products: the sociology of science, composition studies, applied linguistics, and most recently academic literacies as social practice.

Studies in the sociology of science have focused on the way knowledge is produced in academic contexts. Lynch (1993), Knorr-Cetina (1999), and Gilbert and Mulkay (1984), for example, have underscored the role of competing discourses or repertoires in the reproduction and contestation of scientific knowledge. Such studies support the notion
that impartial objective nature of science writing is sustained by treating science discourse as a non-rhetorical factual representation of the world (Dillon 1991). Myers (1990), for example, focuses on how academic genres and popularizations by writers in biology both represent and distribute scientific knowledge differently.

Studies by scholars and practitioners of composition in North America have helped to bring additional insights about the contested rhetorical terrain of academic knowledge. A number of studies have focused on academic institutions and disciplines as spaces where ideological similarities and differences are evident and reflected in the genres that disciplines produce (Bizzell, 1992; Brodkey, 1987). Bazerman (1988), for example, provides a historical reconstruction of the emergence of the experimental research article, drawing comparisons with other disciplines and arguing for practical applications in writing programs. Geisler (1994) observes how critical reading and consensual conventionalised writing practices in philosophy separately address the ideological terrain of academic literacy in this discipline. These studies of academic disciplines have been complemented by studies of genre production in workplaces, which show how history, ideology, and rhetorical purposes contribute to defining text (Bazerman & Paradis, 1991; Russell 1997).

Applied linguistics has also addressed the linguistic characteristics of genres with a view to informing the instruction of non-native advanced learners. In academic settings, Swales (1990) analysis of the rhetorical moves in research article introductions began this work. His more recent studies (Swales, 2004) of a range of other genres including the PhD dissertation and oral viva have focused on what can be learned by sampling from a corpus of texts in the disciplines and identifying rhetorical moves or schema. This rhetorical move structure analysis has been applied widely to researching academic texts (e.g. Lewin, Fine, & Young, 2001), and teaching students in disciplinary contexts (Cargill, 2004; Walker, 1999). Bhatia (1993) and others have extended this approach to professional workplace genres. The thesis and dissertation within disciplines is subject to substantial rhetorical and material variation (Paltridge, 2002). Different thesis sections manifest different stylistic properties, such as the use of metadiscourse, modality, i.e. language of obligation, possibility (Bunton, 1999; Giltrow, 2005), and citation practices (Hyland, 1999).

Genre-based analysis of theses have treated discrete sections of theses, such as the acknowledgements (Hyland, 2003), introduction, discussion and conclusion section (Bitchener & Basturkmen, 2006; Bunton, 2005), literature review (Kwan, 2006; J. Shaw, 1995), abstract, methods section, as distinctive rhetorical and linguistic outcomes whose properties can be made transparent and taught. While these findings are of general relevance the current multicultural student population in Australian higher education, including in design fields, merits particular attention. For English as a Second Language (ESL) students, an increasingly significant cohort in universities, thesis writing is a challenging process for students (Paltridge 1997; Martinez, 2005). Their academic acculturation can be facilitated by having strategies in place (Belcher, 1994; Cadman, 1997; Dong, 1998; Shaw, 1991; Thow & Murray, 2001).

Textual genres are a major resource for disciplinary acculturation within such communities and a representation of professional and academic knowledge. The embedding of text in social context and views of text production as social practice. Scholars who view academic literacies as social practice have explored the non-transparent conventions of writing and the multiple conflicting interpretations of texts in higher education (Medway & Freedman, 1994; Street, Jones, & Turner, 1999). In current contexts of higher education...
with culturally diverse student populations, as Johns et al (2006) show, genre-based approaches can be particularly useful for pedagogy. Texts, including the thesis and dissertation, are central resources and objects in the communities of practice (Lave & Wenger, 1991) that students and faculty inhabit. In a series of in-depth ethnographic studies, Prior (1998) has observed how the diverse genres that graduate students encounter in institutions represent opportunities for disciplinary enculturation. Hyland (2000), for example, has argued that conclusion can be drawn about the social and disciplinary communities students and faculty write for by extrapolating from text elements, such as citations, to the social functions of texts. Hyland (2003) and others (Kamler & Thomson, 2004) have observed how diverse academic genres including some of the apparently less significant examples such as acknowledgements and abstracts are embedded in social contexts of production and reflect these contexts in the text.

**Text and image in art and design research writing**

The historical dimension to genres of design disciplines have been addressed in some recent studies and appeared which can help situate current academic writing practices in design (Kafai & Resnick, 1996; Margolin, 1989). Due to its interdisciplinary approach and practice-based connections contending traditional academic discourses and the visual language and creative discourses of design compete for academic space. The constitution of a discipline of design separate from engineering, architecture, and fine arts with design research as a field of academic inquiry and professional practice continues to be debated (Downton, 2003; Laurel, 2003). Related design fields with more stable academic histories appear to have reached some consensus on what is acceptable or have adopted existing rhetorics. For Architecture, Borden and Ruedi (2000), for example, refer to the honours dissertation as having an introduction chapter followed by several chapters addressing key concepts in the study, and concluding with a summary and discussion of work analysed. Runeson and Skitmore (1999) also refer to a broad three part structure and a middle section with chapters of a literature review and methodology included; this is a common format suggested for the social science disciplines (Craswell, 2005; Oliver, 2004).

In the more recent academized design fields, such as industrial design, variation continues to predominate. In some cases, specific sub-disciplines, have adopted the rhetoric of their historical ‘big brother’ – industrial and product design (engineering), visual communication (fine arts and humanities), interior design (architecture), multimedia design (computer science). Currently the written thesis may develop theory or in practice-based projects accompany as exegesis the analysis of a designed artefact (Newbury, 2002). Practice-based doctorates such as are common in Art and Design entail particular challenges to such students (Miguel & Nelson 2005). The textual products of design research vary in the balance between artefact analysis and/or production and exegesis. The textual outcome of the process also has a multi-modal form; the UK funded project and website on Writing in Purposefully in Art and Design (http://www.writing-pad.ac.uk/) addresses some of these issues, and the aims of the project include a focus on research writing in design (Lockheart et al. 2004). Art and design dissertations may exploit visual rhetorics alongside conventional textual practices, and this is often seen as a distinctive ‘designerly’ characteristic of such work (Edwards 2004). Research inquiry in art and design exploits the visual as data source and representation (Sullivan 2005). Visualizing the research process is also relevant at many different stages of the project (Gray & Malins 2004).
While these pluralistic offerings show design fields experimenting with alternative theses formats research students are often looking for more stable guidelines than the current penchant for creativity and individualism in design departments. Pluralism also has a tendency to be read as poor academic quality in the context of fields seeking academic legitimacy. The digitization of design theses and their public availability constitutes a particularly welcome resource for scholars interested in examining the production of design knowledge and academic legitimation of the discipline, which is still in a process of developing ‘appropriate and coherent epistemic principles’ (Levy, 1990). Electronic Thesis and Dissertation (ETDs) have become an important library resource and represent one of the genres of electronic publications (Edminster & Moxley, 2002). This paper focuses on two sources for design educators and researchers in North America and Australia.

**Focusing on intertextually linked genres of research: research proposal and introduction**

The thesis embodies a range of sub-genres, such as the literature review, abstract, introduction, which are distinguished by linguistic features and rhetorical and communicative purposes. These written genres are related intertextually to other genres, such as the thesis proposal, in the system of genres which the research community of practice the design student enters as novice. Below I exemplify the kinds of practical conclusions one may draw from focusing on a close analysis of the texts with a view to informing students of the boundaries within which they may write. Research article introductions were investigated by Swales (1990), who proposed four moves characteristic of natural and social sciences: establish the field, summarize previous research, create research space by indicating a gap, and introduce the present research. More recent work, however, has shown significant variation in introduction move structure and in discipline differences (Anthony, 1999; Nwogu, 1997; Posteguillo, 1999; Samraj, 2002). Thesis writing, however, is distinct in form and purpose from the condensed nature of journal article introductions and, introduction and literature review are typically distinct (Kwan, 2006).

The dissertation research proposal like the research seminar and other academic spoken and written genres is something of an occluded genre (Swales, 1996). That is, unlike the thesis or journal article it has a critical place in the academic writing process but has been under examined relative to other genres. Bhatia (2004) refers to genres which share designations, purposes and form as genre families. The dissertation research proposal is a member of a larger genre family of proposal texts in research contexts, including the grant proposal, conference proposal. Referring to the conference, grant, and research proposal as subgenres, Halleck and Connor (2006), for example, find rhetorical similarities between all three sub-genres (of the genre family) in applied linguistic field. In their study of the related genre of research grant proposals Connor and Mauranen (1999) identified ten characteristic rhetorical moves in a sample of 34 European Union Grant Proposals. An earlier study by Brenneis (1994) of grant proposals locates the assessment of such proposals in the ideological context of competitive funding assessment. Renze (1996) observes that novice grant writers in engineering learn more from expert writers and faculty peers than they from previous models. Connor and Wagner (1998) note ESL Spanish speakers were able to learn to adapt their proposals to Anglo American assessors and draw conclusion about claims of the inherent difficulties ESL speakers have in adapting to writing demands in English speaking contexts.
Writing effective research proposals is the subject of textbook instruction (e.g. Punch, 2000). Clark (2005) identifies the graduate thesis proposal as a textual resource for graduate students to enter the research community conversation. Employing Lave and Wenger’s (Lave & Wenger, 1991) socio-cultural framework for learning, Rubdy (2005) refers to the graduate proposal as a key resource for the legitimate peripheral participation (LPP) of novice research students in research communities of practice (CoP). In some contexts the research proposal has been used as an assessment task in research induction and training programs, especially for ESL students (McGowan, Seton, & Cargill, 1996; Paltridge, 1997). Cadman (2002) has noted that more is at stake than an assessment of the textual form of the proposal in higher education. The proposal is used by supervisors to evaluate the candidate’s ability to position the research in broader context and to assess personal characteristics of the students, such as motivation. The ethnographic study of Berkenkotter et al. (1991) essentially describes the process of negotiation students must go through in their production of developed proposal and introduction. Such studies could be replicated in design schools. Tardy (2003) notes that grant proposals exist as part of a broader genre system, that is the genre is intertextually linked to other texts and resources; the same is true of the dissertation proposal. In addition to other materials, e.g. resume, a brief proposal is used as a hurdle requirement to judge candidates suitability. In fact, a schematic proposal used as a hurdle requirement is often later developed during the first year of candidature and this developed proposal is submitted for evaluation. The developed research proposal, especially in North America, may be the outcome of enrolment in specific research methods coursework or other training.

Methods
Established in 1998, The Australian Digital Thesis Program (ADT http://adt.caul.edu.au/) currently subscribes 34 higher education institutions, some of which produce theses in design-oriented areas. Some though not all the theses indexed on the systems are available as downloadable pdf documents and theses may be searched by keyword. The much larger North American Networked Library of Theses and Dissertations (NDLTD http://www.ndltd.org/index.en.html) provides a similar service. Both sources were used to extract design theses for the sample addressed in this study. To begin to draw some conclusions about theses and dissertations in design schools, departments and faculties a sample of theses (table 1 below) were downloaded. While in some cases the faculty enrolment did not indicate design and some theses showed evidence of interdisciplinary work in each case keywords identified some relevant design field as addressed in the work. Research proposals, meanwhile, are increasingly available on institutional internet sites. Since both sources are publicly available no issues of consent are relevant.

Thesis introductions in design
The PhD theses below were extracted from the ETD and ADT. All theses address a range of design issues and included an introduction chapter. Key word searched of the relevant digital thesis sources and a scan of the document confirm the relevance of the document to the design field. For purposes of comparison PhDs were chosen which theorized some aspect of design and were expected to contain an introduction chapter. While the thesis below cannot be held as representative of the design field in general they do illustrate one stream of work in design-oriented work which theorizes some aspect of design.
### Table 1: ETD/ATD design-oriented theses examples

<table>
<thead>
<tr>
<th>Topic</th>
<th>Author</th>
<th>Institution</th>
<th>Date</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>A theoretical framework for research in interior design</td>
<td>Karpan, Cynthia</td>
<td>University of Manitoba</td>
<td>2005</td>
<td>PhD</td>
</tr>
<tr>
<td>The Effect of Technology on the Development of Magazine Visual Design Style</td>
<td>Cleveland, Paul</td>
<td>Griffith University</td>
<td>2004</td>
<td>PhD</td>
</tr>
<tr>
<td>A Case Study in the Participatory Design of a Collaborative Science-Based Learning Environment</td>
<td>Chin, George</td>
<td>Virginia Tech</td>
<td>2004</td>
<td>PhD</td>
</tr>
</tbody>
</table>

Introduction chapters to theses are generally recommended in thesis writing textbooks in the social sciences and design-oriented disciplines (Borden & Redi, 2000; Craswell, 2005; Dunleavy, 2003; Oliver, 2004; Runeson & Skitmore, 1999). The three theses referred to below address the rhetorical articulation of the introduction. In this brief overview I focus on three critical aspects of thesis introductions: rhetorical structure, voice, and referencing.

**Karpan (PhD University of Manitoba, Canada 2005)**

The thesis divides into six chapters – introduction, literature review, methods, findings, theoretical framework, and summary. The introduction is segmented into three subsections (1.1 Study Purposes and Research Questions, 1.2 Assumptions, Operational Definitions and Limitations, 1.3 Organization of the Document) occupying pages 1–14 (incorporating footnotes, a blank page, and a schematic figure giving a pictorial representation of thesis). These subsections incorporate seven overall rhetorical moves: background to research question (prior to subsection 1.1 there are three paragraphs providing background to the research topic), study rationale (purposes), five research questions, assumptions about comparison between interior design and qualitative research, definitions of the terms research in interior design, limitations of qualitative studies, document organization in chapters. Claims in the introduction are sustained by seven citations and the text adopts third person voice throughout. The text proper ends at page 10.

**Cleveland (PhD Griffith University, Australia)**

The introduction chapter, which precedes a literature review (defining style), occupies six pages of a total 232 pages. The chapter is divided into four sections (1.0 introduction, 1.1 outline of thesis, 1.2 justification for the research, 1.3 rationale). The four page background is predominantly in third person voice and overview the relationships between graphic design, technology and visual grammar. The first sentence of paragraph one (1/16 paragraphs) employs first person voice – ‘During my twenty year career as a graphic designer…’ and that is the only direct intrusion of first person in the introduction. Twenty citations.
(from sixteen different sources) are used to substantiate claims in the introduction. A graphic image provides (as in Karpan) a visual overview of the thesis under section 1.1. No explicit research questions are stated but to some extent these are embedded in claims in the rational section, e.g. By identifying which aspects of visual grammar are important in the analysis of style..., ie. identify aspects of visual grammar ... is an objective.

Chin (PhD Virginia Tech, USA, 2004)
The introduction occupies 20/400 pages (excluding bibliography and appendices). Including a background overview it is segmented into nine subsections: research problem, hypothesis, validating the hypothesis, roles and participation of teachers and students, advancing the knowledge base, research design and methods, scope of research, research setting, dissertation outline. It is followed by a literature review ('research background') and preceded by an abstract ('executive summary'). Claims are sustained by 59 citations in total with multiple citations from some sources. For example, a research methodology text by Yin is cited five times. The ‘hypothesis’ section in fact addresses the relevance of participatory design to educational environments and produces eight ‘propositions’ which unpack a general ‘hypothesis’ that reads as an overall aim, i.e. the application of participatory design will improve.... Throughout the chapter a third person voice is maintained with some intrusions from a first person plural ‘we’ characterizing the unidentified research team (in addition to the author).

Some observations
In each thesis some background material introducing the topic is included and claims in the text are substantiated by citations although these differ widely in number. Voice, with one exception, is third person or passive voice throughout. Subsection numbering and labelling do not consistently name rhetorical moves as indicated above. In two of the three theses a graphic image is used to provide a schematic overview of the thesis content. Study objectives and aims are present in all three theses although neither subsection labels, eg. rationale, specific terms, eg. hypothesis, predict their location nor their linguistic form. All chapters immediately precede a literature review and are preceded by an abstract or executive summary. These theses, which do not focus on the production of an artefact, represent a particular thesis introduction type familiar in the social sciences. Further analysis of a broader range may establish the relevant trade off between first person and third person voice, frequency and use of citation, and overall rhetorical structure. These completed examples may be used as models for students to analyse and use to write with as tools. A limitation is that rhetorical analysis of theses ignores the fact that the thesis is the retrospective outcome of an academic process, which begins with the research proposal. The example of the dissertation proposal below exemplifies a socially and institutionally contextualized approach.

Dissertation Research Proposal
This brief analysis looks at one dissertation proposal entitled 'Reading, Design and Comprehension: Improving text accessibility for people with dyslexia through interaction design' (Joy Sykes Leonard, PhD Candidate, Carnegie Mellon), which is publicly available on the Carnegie Mellon website. (http://www.andrew.cmu.edu/user/jsykes/jsykes dissertation proposal.pdf)
The function of the document as a milestone statement in the research process and a prospective claim is written into the form of the document in various ways. A tabled timeline (p.27) and outline of research phases (pp.24–26) as well as linguistic indexes of the interim nature of the text are also evident. While third person voice is used in many parts of the document an action oriented agency is taken up in regard to projected research processes, eg. ‘I will meet…, I will analyse…’ The personal involvement of the author is especially exemplified on page 16 where the author makes a series of particular emphatic claims about her personal investment in the research process, eg. ‘As a designer and dyslexic I do not accept the current status quo’. In general the text exhibits a propensity to metadiscourse that is generally discouraged in the final stages of thesis writing and not apparent in the three PhD examples given above. Williams (1990) definition of metadiscourse is relevant here, ‘Metadiscourse is the language we use when, in writing about some subject matter, we incidentally refer to the act and to the context of writing about it’ (p.40). Metadiscourse verbs like show, describe, believe, etc., are common examples.

The dissertation research proposal as presented is composed of two sections the proposal per se (pp.24–27) incorporating timelines and claims about research phases and a preceding introduction to the topic. This document includes 33 citations from a mix of primary (original research articles), secondary (textbooks and other more general anthologies), and tertiary research sources (magazines) and it also employs a personal style that packages claims in narrative scenarios, such as the case of a dyslexic sufferer Sean on page 3. In comparison to the three PhD examples included above both the number of references and the balance of primary and other sources changes substantially by the time of submission. The introductory paragraph (p.2) which introduces the problem dyslexics have with reading also employs this narrative storytelling style with the first paragraph developing a picture of a group of disenfranchised people (‘millions of other people’) amongst a majority (‘most people’) who are frustrated by mundane tasks (‘ordering in a restaurant’). This personal style enters at different points in the text. Following Dillon (1991), we may claim that the different degrees of metadiscourse in the research proposal compared to the thesis introduction are an indication of some of the other rhetorics of persuasion that are embedded differently in research texts at different points.

As above, although textual properties of the research proposal construct a stylistically different representation of the research process and reflect the prospective and interim nature of the project what we are analysing is the stable outcome of a process of negotiation and drafting such as Berkenkotter et al. (1991) have described. The social and rhetorical process of creating the research proposal in design research warrants further research so that we can see how individuals in research communities of practice negotiate and produce expertise. Such analyses can contribute both to understandings of the production of academic literacy in institutions and also contribute to pedagogy in informing students about processes and products (Street et al., 1999).

Discussion
It is important to both identify the recurrent rhetorical and linguistic features that are reflected in academic texts but also to recognize that such elements, eg. voice, citation practices, reflect the disciplinary social contexts of production. Genres are central resources in the enculturation of students to expert disciplinary practices. Texts will reflect the intrinsic disciplinary debates in the disciplines and this will also be true in a new field

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such as design where a range of engineering, fine arts, and science discourses currently aim to construct particular versions of design knowledge. The rhetorical examination of thesis models in design can contribute to pedagogy of design education in providing exemplars against which students may judge their own writing. The disciplinary content and relevance of such texts make such models far more relevant to design educators and students than general textbooks addressing design. Further research employing the resources of digital theses collections and examining the social production of academic writing are required in design education and this paper suggests some of the theoretical foundations that can be used.

References


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