Presenting, and Persuading: International Health Sciences Doctoral Candidates' Research Proposal Presentations

Jessica Scott

Thesis submitted for the degree of Doctor of Philosophy

Discipline of Linguistics
School of Humanities
Faculty of Arts
University of Adelaide, Adelaide

March, 2022

Table of Contents

List of Figures

List of Tables

Declaration

I certify that this work contains no material which has been accepted for the award of any other degree or diploma in my name, in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. In addition, I certify that no part of this work will, in the future, be used in a submission in my name, for any other degree or diploma in any university or other tertiary institution without the prior approval of the University of Adelaide and where applicable, any partner institution responsible for the joint award of this degree. I give permission for the digital version of my thesis to be made available on the web, via the University's digital research repository, the Library Search and also through web search engines, unless permission has been granted by the University to restrict access for a period of time. I acknowledge the support I have received for my research through the provision of an Australian Government Research Training Program Scholarship. Furthermore I acknowledge the assistance of my editor, Ms Valerie Mobley, who has assisted with proofreading and formatting.

Jessica Scott

Acknowledgements

To my supervisors Dr Peter Mickan and Dr Michelle Picard: thank you both for your incredible wisdom, boundless generosity, and endless patience.

To my wonderful UofA colleagues, past and present: thank you for the support, advice, and inspiration.

To my husband: thank you for absolutely everything.

Abstract

Presenting is a core practice of research. While writing is understood as involving codifiable linguistic patterns, spoken literacies remain much less explored. This study qualitatively analyses the deployment of genre resources and evaluative language in a small cohort of rehearsal research proposal presentations delivered as part of a program for international provisional doctoral candidates in the health sciences, using discourse semantics frameworks from systemic functional linguistics (SFL). Genre analysis undertaken in this thesis characterises the doctoral proposal genre as a report on anticipated research activity, comprising an extended research warrant macro-genre which construes the proposed project as worthwhile and original, followed by limited procedure, which establishes the project's feasibility. Multi-level genre embedding is documented. Appraisal analyses show that there is intensive, but often covert, evaluation at work across speech and slides. Patterns of evaluation identified within the presentations showed five key types of 'valuation': in/significance, dys/functionality (including un/healthiness as a key subtype), un/successfulness, risk/safety, and cost/benefit. In addition, dialogic contraction was favoured over dialogic expansion. Together, the analyses here allow clarification and elaboration of some of the items of guidance on presenting in researcher education support programs. The thesis provides insight into the complex, sophisticated, and tacit literacy practices involved in presenting in the disciplines, extending valuable researcher education support work in this area, and highlighting the importance of presenting as a part of scholarship.

Chapter 1 Introduction

Presenting research is one of the core practices of science, and doctoral research proposal presentations represent a major milestone for provisional doctoral candidates. However, doctoral-level presenting remains comparatively unexplored in the literature, potentially limiting researcher support. This chapter describes the purpose and aims of the study, including the significance of research presenting for commencing doctoral candidates, the persuasive nature of the doctoral proposal, and the salience of interactive and interpersonal aspects of language in presentation genres. It outlines the study's approach to language as a social semiotic, and offers its core research questions to be addressed through analysis of the genre staging and discourse semantics of a sample of research proposal presentations delivered by doctoral candidates. Finally, the chapter outlines the structure of the rest of the thesis.

1.1 Speaking in the disciplines

Listening and speaking are key to learning and to understanding experience just as much as reading and writing (Halliday 1985: 96). Presenting research is a fundamental practice of science, crucial to the creation and dissemination of scientific knowledge and to the activities and cohesion of scientific communities. Speaking about research is a critical practice of the disciplines, which uniquely connects speakers and listeners. Live lectures, seminars, and conferences socialise us into academic communities and into disciplinary knowledge. Planned spoken text events occupy the intersection of spoken and written language, the nexus of 'different ways of knowing' (Halliday 1989), and because of this are a profoundly interesting phenomenon for discourse analysts. Though academia continues to privilege written accounts of disciplinary knowledge, in the form of Gilbert and Mulkay's (1984) 'empiricist repertoire' (in Mauranen 2003: 56–57), a recent resurgence of research into live spoken science genres (Hood 2017; Hao and Hood 2019, 2021; Ellery 2021) draws our attention to the significance of spoken academic language in the construction and dissemination of not only technical contents of the disciplines, but also of the values that are entwined with content, necessary for both epistemological access to the sciences, and for professional legitimation (Martin 2017: 128). The shift from synchronous to asynchronous texts associated with the intense pressure to provide remote services is felt keenly by

many across the disciplines—for example, as per Trevelyan's (2021) imploring a return to live, in-person lecturing. However, the effects of such shifts have been difficult to fully articulate. The study of academic presentations as instances of disciplinary discourse therefore allows us to explore more fully what is actually happening in the text, and the role of interactive language.

The first time that a researcher stands up and formally presents their work is likely to be when they deliver their research proposal presentation towards the end of their first semester as a higher degree by research (HDR) student. The written proposal, which outlines the research project to be undertaken over the course of candidature and written up as the student's thesis, is a high-stakes document, formatted to a faculty template, and submitted to a panel who evaluate the proposal and determine whether the student can indeed proceed with their degree. The driving force or nucleus of the doctoral proposal is a set of research questions or hypotheses. Proposals are assessed within the institution by a panel of members both from within the candidate's faculty and outside it. While completed research is evaluated according to a set of criteria of worthiness which prioritises originality, significance, and quality (Cargill & O'Connor 2013: 18), proposed research must be evaluated also according to feasibility, as the work has not yet been done. Research proposals are promissory texts which must persuade the audience that not only is the work interesting and worthwhile, but also that the writer can and will indeed get the work done, promoting both the research and the researcher (Myers 1985; Connor & Mauranen 1999; Swales & Feak 2009). An HDR student must persuade the panel that the proposed project is worthwhile and well-designed, and of a suitable scope for doctoral candidature, and that they personally will be able to complete the project and submit a successful thesis within the timeline of candidature.

Persuasion and promotion in a proposal is intricate, and largely implicit. To successfully construe expertise, candidates must go beyond description and explanation. Research proposal writers must demonstrate not only categorical topic knowledge, but also critical perspective of the field: what is known about the topic, what is considered contentious, what remains unexplored, and of a range of relevant positions in circulation within the disciplinary community. Writers need to demonstrate genuine, dynamic participation in the disciplinary conversation (Mickan 2004, 2007; Guerin & Picard 2012). Rather than declared outright, critique

of previous work and promotion of the proposed project is achieved through the 'meticulous' structuring of information, and often very subtle evaluation (Cheung, 2017a). This is done through a range of discursive strategies which promote the proposed study, aligning it with the research community (Hood 2010; Cheung 2017a:45) and thus carving out a space for the writer's contribution to the field (Swales 1990). Mastery of the discourse involved in academic persuasion is complex, and can represent a significant challenge for any HDR in their first semester of candidature.

In Australian universities, students must both submit and present the proposal to be confirmed as a HDR candidate. Presentation occurs within a faculty seminar, where the audience includes disciplinary supervisors, faculty members, and peers. The requirement to present is generally regarded as training for future conference presentations, and is a reflection of institutions' recognition that speaking about one's research is a necessary research skill or practice. The presentation of the proposal can also function as a 'last chance' to identify major issues with the proposed research design before the proposal document is submitted for assessment. Presentation of the research proposal therefore represents a kind of quality assurance measure: a stress test of the ability of the HDR to demonstrate competence and membership within the discipline. The stakes of the presentation as distinct from the written document can vary from one university to another. Some institutions require the presentation to be delivered in person to the confirmation panel, which then interrogates the student, *viva-voce* style. Other institutions require that the presentation is delivered within a faculty seminar, emphasising the importance of ongoing, collegial discussion of the project within the immediate academic community, and of course ideally beyond. The embodied nature of presenting foregrounds issues of identity and belonging that permeate candidature.

The expectations of the proposal presentation as a task can be tacit and under-articulated. Research proposal presentations are largely occluded, and a student may not see any of these types of presentations performed until the session in which they give their own, with this type of presentation is only given at a single point at the very beginning of a researcher's career. There is often little explicit discussion of what oral presentation of the written proposal specifically entails. It is certainly clear that supervisors are looking for a compelling talk rather than recitation of the written proposal, however, it is often not clear what the specific expectations are.

Institutional documents may simply instruct students to 'present' the written research proposal, and sometimes further specify the inclusion of components such as '*the background to the research topic, hypothesis and aims, methodology and any preliminary results'.* Previous studies (Weissberg 1993; Morton & Rosse 2011; Zappa-Hollman 2007) have indicated that students tend to emulate 'IMRD' structures of written texts. As the written proposal contains far more than 20 minutes of presenting can do justice to, speakers face choices of what content to prioritise and what to abridge.

The scarcity of literature on doctoral proposal presenting is related to that of spoken academic genres more generally. For practical reasons, there is still relatively little research into speaking in the disciplines, in comparison to the vast amounts of research on written texts (Lau et al 2020; Carter-Thomas & Rowley-Jolivet 2003). There are a number of detailed ethnographic explorations of researcher identity, voice, and belonging in relation to writing and speaking at university, particularly in the contexts of non-traditional and international scholars (e.g. Ivanič 1998; Kobayashi et al. 2017), but relatively little work focused on spoken text as an artefact. Barriers to research include the inaccessible nature of spoken academic genres, the costs and challenges of the transcription of highly technical texts, and the complexity of qualitative analysis of spoken texts, resulting in fewer and smaller studies and thus impacting generalisability (Lau et al, 2020). This has resulted in limited discourse-focused linguistic research that might underpin pedagogical materials for different types of presentations.

The majority of existing on presentations has tended to examine accounts of completed activity. Studies have examined the presentations of experienced scholars describing completed/near-completed research at conferences (Dubois 1980; Rowley-Jolivet 2002; Rowley-Jolivet & Carter-Thomas 2005; Hood & Forey 2005; Hu & Liu, 2018), and there has been work into the functions and structures of dissertation defence presentations, or *viva voce*/*viva*, in which research students present their completed theses (e.g. Denicolo 2003; Mezek & Swales, 2016; and Lau et al, 2020). There has also been some work on undergraduate level presentations, including Morton's (2009) excellent study of architecture students' annual presentations characterises less-successful and more-successful texts according to the presenters' deployments of stance and rhetorical approaches. However, there is very little available on the enactment of stance, positioning, and

persuasion at the level of discourse semantics in the context of presenting *preliminary* or *tentative* research activity. Doctoral proposal presentations tend to be discussed only briefly, and grouped into umbrella categories such as 'student presentations', 'research process genres', or 'seminars' (Weissberg 1993; Zappa-Hollman 2007; Hyland & Shaw 2016; Fortanet 2005; Hyland 2009). The few studies which examine doctoral proposal presentations as a discrete subgenre include Zappa-Hollman (2007) and Nausa (2017, 2020).

The need for more investigation into examples of spoken genres to support academic literacies pedagogy has been stressed by many researchers (Rowley-Jolivet & Carter-Thomas 2005; 2008; Mickan 2013; Nausa 2017). This study is an attempt to address this gap in the context of commencing doctoral candidates, presenting a small corpus of transcribed presentations, and exploring how HDRs in the sciences structure their research proposals as presentations, how they position their own work while engaging with other voices within the field, and how they present themselves as competent researchers of the discipline.

1.2 Doing it live: interactive reflection

Research presenting involves a unique set of literacy practices and language choices. Academic presentations based on a parallel text requires institutionalised forms of language which little resemble everyday speech – yet they are spoken (Rowley-Jolivet & Carter-Thomas 2008). As Halliday argues, writing and speaking are not just distinct modes, but ways of doing different things (1985, p. xv). Written and spoken texts tend to differ across a range of dimensions; the contexts and constraints of spoken texts are very different from those of written texts (Carter-Thomas & Rowley-Jolivet 2003:3; Young & Nguyen 2002). A summary of generalised points of contrast is given in Table 1, overleaf. Planned presentations have been characterised as written-to-be-spoken, potentially spanning the entire written-spoken continuum. A written text read aloud, for example, would represent a spoken manifestation of most the written characteristics listed here.

Table 1. Binary contrasts characterising spoken and written language

'Spoken'	**'Written'**
Process	Product
Synchronous	Asynchronous
Embodied	Disembodied
Sonic	Graphic
Spontaneous	Planned
Interactive	Reflective
Context-dependent	Decontextualized
Grammatically intricate	Lexically dense
Everyday ("commonsense")	Specialised ("uncommonsense")

Presentations are rarely recited entirely verbatim from a written text. Academic presentations typically incorporate a hybrid combination of interactive, spontaneous, contextualised, grammatically intricate, speech-like language and reflective, planned, decontextualised, lexically dense written-like language (Halliday 1985; 1987; Biber 1986; Lindemann & Mauranen 2001). The spoken mode both expands and constrains the kinds of meanings that can be made in comparison to a written paper. Slideshows in themselves represent a distinct meaning-making resource involving a particular mix of constraints and choices (Zhao et al. 2014), and presentations involve many channels of communication: sonic, graphic, and embodied. Speakers can make meanings through language, images, and the paralinguistic resources of intonation, pitch, volume, pausing, facial expression, and gesture. Presentations are *performed*. Speakers combine speech, writing, images and body language into a text which may be rehearsed but not edited. Mastery of the disciplinary discourse required to accomplish both the written and presented proposals is challenging.

Language is a social phenomenon which is responsive to context, and presentations are greatly influenced by the presence of an audience in the room. Live, in-person presentations involve a material setting in which the audience is in the same here-and-now as the speaker; the text therefore demands some degree of in context interaction (Hood & Forey 2005; Rowley-Jolivet & Carter-Thomas 2008). Corpus-based explorations of academic registers by Biber and colleagues (Biber et al. 2002; Biber 2006) have consistently found that regardless of context, face-to-face language, by its nature, prompts speakers to share personal experience (Biber 2006: 222–223). Presenters can engage the audience in a direct and personal way, through

jokes, apologies, and self-deprecation (Rowley-Jolivet 1999; Frobert-Adamo 2002); they tell personal anecdotes (Duarte 2012); they frequently use personal pronouns 'I' and 'you', (Biber 2006; Rowley-Jolivet & Carter-Thomas 2008; Le 2008); and they openly express opinions and feelings (Mauranen 2002; Swales 2004; Biber 2006). Speakers tend to prefer active verbs, with use of the passive voice 'extremely rare' (Biber 2006: 65; Carter-Thomas & Rowley-Jolivet 2003), and tailor their language for an audience who cannot pause or rewind but must follow along in real time, thus simplifying language and glossing some of the more specialised disciplinary technical concepts (Rowley-Jolivet & Carter-Thomas 2005: 50; Nausa 2017). Presentations thus involve more explicit features of the 'interpersonal' functions of language.

Presentations shift dynamically between written-like and spoken-like language. Each is a mixture of contextualised, conversational 'fresh talk' (Goffman 1981), and decontextualised reflective language (Cloran 1993). These shifts correlate to the progression of stages throughout the unfolding presentation: introductions and conclusions tend to be more recited, while methodology and results are often more conversational (Weissberg 1993: 29). Within these stages too shifts in register occur. It has been shown that academic lectures shift in 'phases' back and forth along a cline ranging from more interactive, explicit, concrete *descriptive* language, to more objective, implicit, generalised *reporting* language (Hood 2017).

The complexity of the meaning-making potential posed by presentations creates unique challenges for novice researchers, who must go from a lengthy bureaucratic project planning document to a twenty-minute live performance in front of peers and colleagues. With a different pool of semiotic resources, different options for realisation present themselves. HDRs are faced with different contexts and resources with which to demonstrate the worth of their nascent projects and their broader ability to critically evaluate disciplinary phenomena.

Introductions, which perform a vital function of persuasion in any academic text, are of particular interest. Introductions contextualise and rationalise academic texts. The introductions of written research texts have long been recognised as particularly rhetorically significant, involving 'objective' and informative discourse which is somehow also very persuasive, establishing the importance of the topic and the worthiness of the current paper (Swales 1990). In spoken academic

genres, there are two 'introductions'. There is the academic introduction proper, which centralises the topic and establishes a gap, enacting the 'bulk' of the evaluative work of a text (Burgess 2002: 198); and there is the more interpersonal peri-textual introduction—giving one's name, outlining the talk, and so on. It is often difficult to separate the two, and much of the research into spoken academic genres groups them together.

In terms of the introduction proper, previous studies have shown that there are differences in the structure and persuasive language features of spoken versus written introductions. Notably, in research presentations, very little time is spent on discussion of other literature in the field (Weissberg 1993: 26; Rowley-Jolivet and Carter-Thomas 2008). Reference/citation is of course a key component of how persuasion is enacted within written academic discourse. By referring to the work of others, scholars evaluate other research, and align or distance themselves from it, positioning their own work and establishing the relevance of the research within the disciplinary conversation (Hyland 1999; Samraj 2013; Swales 2014). In written academic discourse, there are a number of mechanisms for attribution, each indicating in some way how the author feels about the cited information. By far the most common form of citation, particularly in sciences, involves 'non-integral citation', that is the insertion of a citation parenthetically at the end of a sentence, as in the following example:

> *Vitamin D deficiency is variably defined as a 25(OH)D level less than 25–37 nmol/l (10–15 ng/ml) [7,8]*
>
> taken from Wolff et al. (2008)

Spoken language, however, does not have an equivalent system for non-integral citation. Presenters have the following options: name the cited sources ('*Mosekilde 2005 and Zitterman 2003 define…*'); generalise the cited sources ('*Studies have defined…*'); display the 'intext' or full reference on an accompanying slide while uttering the information; display the information on an accompanying slide with an integral or non-integral citation, with or without a spoken recitation/reformulation; or utter the information with no explicit citation of the source. While some studies have examined the use of citation and attribution in written grant proposals (Tardy 2003; Fazel & Shi 2015), few have examined this phenomenon in presented doctoral proposals, which are likely to involve different patterns given that spoken language is known to be more openly evaluative. In written academic texts,

evaluation can be subtle, folded away within 'objective' discourse, and often only apparent to insiders. In spoken academic discourse, however, author presence and opinion is typically much more explicit (Mauranen, 2002; Swales 2004; Biber 2006); furthermore, evaluation can also be construed through intonation and gesture (Martinec 2001; Hood 2016; Hao & Hood 2019; Hood & Hao 2021). Advice or exemplars extrapolated from written texts may therefore be limiting. In order to bring doctoral proposal from the realm of the tacit to the realm of the explicit, we need to know what and how presenters can mean.

1.3 Approaches to evaluation

There are two highly productive approaches to analysis evaluative and persuasive language in the literature: 'metadiscourse' studies (Hyland 2017), and 'Appraisal' studies (Martin & White 2005). Metadiscourse studies have examined a range of language features which manages the author in relation to the reader and to external sources/voices, such as hedging (Crismore & Vandekopple 1997; Hyland 2005; Hyland 1998, Mauranen 2004), self-reference (Le 2008; Tardy 2003), citation (Hyland 1999), and so on. Metadiscourse literature can, however, be inconsistent in terms of terminology, and categorisations can vary slightly between researchers. This approach is also oriented to formal categories and 'particulate' structures, which creates difficulties in accounting for persuasion, which is enacted prosodically, with meanings which reverberate beyond single clauses, and can even operate retrospectively through texts (Hood 2004, 2010a).

In order to fully explain the linguistic choices that writers and speakers make, a systemic and *metafunctional* model of language is required. Such architecture is provided by the 'Sydney School' of linguistics with systemic functional linguistics (SFL). SFL understands language as inherently social, functional, and dialogic. SFL models genres not as shared convention for the achievement of community goals, but as the enactment of social activity itself; genres are resources upon which any speaker may draw (Martin & Rose 2008). Appraisal is a systemic description of interpersonal meanings situated within SFL, which models the resources that exist in language for negotiating evaluation, including attitude and stance, for engaging with other voices, and for grading interpersonal meanings. This study therefore adopts SFL and Appraisal as the theoretical basis for investigating evaluative stance in doctoral research proposal presentations.

1.4 Research questions

The broad aim of this study is to investigate examples of research proposal presentation in order to understand how these texts work: how the presentations are staged, and how presenters represent themselves as competent researchers positioned legitimately within the discipline.

In order to do this, the study has three guiding research questions: what is the generic nature of a research proposal presentation; how do proposal presentations persuade; and what is the division of semiotic labour? These can be further teased apart into six sub-questions:

1. **What is the generic nature of a research proposal presentation?**
   1.1 What is its social function and what is the staging pattern?
   1.2 How are the stages, particularly introductions, structured?
2. **How do presenters position themselves and persuade?**
   2.1 How do presenters critique and incorporate previous research?
   2.2 What resources and patterns of evaluation are deployed to enact stance and persuasion? How overtly evaluative are the presentations?
3. **What is the division of semiotic labour?**
   3.1 How do visual and verbal semiotic resources combine to construct meanings in proposal presentations?
   3.2 Which meanings are committed jointly and which are committed distinctly across modalities?

These questions drive the research objectives:

- To provide insight into the proposal presentation as a distinct genre
- To document the complex semiotic work performed by researchers presenting projects that are at the proposal stage
- To examine alignment between doctoral education support resources and observed texts
- To refine existing work in doctoral education support.

1.5 Research design: qualitative text analysis

In order to respond to its research questions, this study examines a number of doctoral research proposal presentations delivered as part of a PhD program. As this study is interested in meanings and functions operating 'beyond the clause' and 'beyond the page', a discourse semantics investigation of literacy practices as social practices is undertaken. In order to understand 'how' the presentations work, a qualitative approach is adopted, allowing deeper analysis of texts. Qualitative analysis of whole texts allows the capturing of features that may be overlooked in generalisations across a corpus (Bassey 1981: 86; Martin & Rose 2007), and of logogenetic patterns which unfold across a text.

It is critical to analyse real examples of language in use. Real language is messy, complex, and fundamentally embedded in its cultural and situational contexts. The context-blindness underpinning the use of fabricated texts, and the resulting dysfunction, has been documented (Mickan & Lopez 2017: 20–24). Studies of authentic doctoral language in use are still rare. In order to provide targeted support to students, we need linguistic accounts of the ways in which candidates from the disciplines actually use language. This includes analyses of how doctoral candidates structure their proposal presentations, the ways in which they create a rationale for their project, the ways in which they assert knowledge, the ways in which they align themselves with a particular strand of the discipline, and the ways in which they justify and describe various aspects of their proposed projects. Therefore, in order to extend insight into the language of doctoral research proposal presentations, this study explores a small corpus of recorded and transcribed doctoral research presentations from a systemic functional linguistic (SFL) perspective, which is able to theorise semiotic patterns across content, organisational, and interpersonal systems of meaning. This study is situated in the social Appraisal and systemic functional perspectives, utilising the frameworks of genre (Martin & Rose 2007) and Appraisal (Martin & White 2005) to explore resources used for organising and evaluating. It primarily considers the structural organisation of research proposal presentations, and the deployment of a range of evaluative resources throughout the unfolding texts. It does so across a small collection of doctoral research proposal presentations, which have been recorded and transcribed.

1.6 Significance of the study

This study represents a contribution to the expanding pool of research into spoken academic genres and specifically the Research Proposal Presentation as an occluded genre. Given the persuasive and promissory nature of proposal presentations, there likely exist salient discourse features that are not adequately captured in the transference of results from investigations of other types of texts. . Examining whole texts reveals 'the interrelationship of text and context—the social function of the text aligned with the lexicogrammar of the text type or genre' (Mickan 2017: 18); narrow and deep analysis of a literacy event contributes to the precision and accuracy of understandings which form the foundation for advice given to students about the kinds of things that are important in the genre, as part of a genre-based or text-based curriculum (Mickan 2013) that explicitly unpacks specialised literacy practices. As we increasingly turn to remote and asynchronous forms of discourse, it is necessary to articulate a fuller account of the meaning-making work that face-to-face presentations actually do. The use of Appraisal, and in particular the Engagement framework, to analyse the interpersonal functionality of the texts, presents a potential basis for the eventual development of resources which allow students more awareness of how they may fulfil, exploit, and experiment with those functions (Lau et al 2020). Text-based pedagogy is underpinned by reference to authentic texts, extending the communicative resources and repertoires available to novices for participation in language-based social activity (Mickan & Lopez 2016: 12). In documenting and examining key persuasive functions of spoken texts, this thesis continues an established tradition of theoretically grounded, text-based case study linguistics research, and this project ultimately offers insight into the specific demands of doctoral candidature, and a more complete articulation of the literacy practices required.

The findings of the study also offer potential insight into disciplinarity. Doctoral candidates, having completed undergraduate studies, are already peripheral members of their disciplines (Bowen & Schuster 1986; Paulsen & Wells 1998; Riley 2002; Karimi 2014); doctoral language in use is thus reflective of the values of the discipline (Berdanier 2019).

Summary

The current chapter has described the rationale for the study and the importance of exploring evaluation in spoken academic texts. Chapter 2 describes proposal presentations as a task in the context of candidature, and describes the 'genre-based' moves approach used to teach research literacies in a support program for international HDRs. Chapter 3, Frameworks and Literature, describes in greater detail the systemic functional approach to language, and the literature relevant to the current research. Chapter 4, Methods, outlines the data collection and coding procedures. Chapter 5 offers a characterisation of the register and generic stagings of the presentations under investigation, demonstrating deployment of a research warrant close to that identified by Hood (2010) in written texts. Chapter 6 investigates the attitudinal positionings that characterise each stage of each of the presentations, showing how the presenters evaluate the topic and other literature within the disciplines, and express disciplinary Valuation. It demonstrates the way in which the presenters adopt a contractive disciplinary voice, tending to refer to previous research in general and implicit terms rather than explicitly. Chapter 7 offers a discussion of the implications of the research, including in terms of some of the finer details of researcher support materials.

Chapter 2 Contextualising the study

This thesis examines the research proposal presentation genre through analysis of a group of proposal presentations. These presentations were delivered within the context of a bridging course for commencing international higher research degree (HDR) candidates. The current chapter first outlines the task of the research proposal presentation and its relation to the written proposal. It then describes the needs of research students and nature of existing language support. It characterises current approaches to text and genre in researcher education, and the context of the course from which the data was selected. It outlines key aspects of the advice on presenting given within the course. It concludes with recognition of the need for a comprehensive model of language to extend researcher literacies support.

2.1 The task: presenting a research proposal

Developing a research proposal and then presenting it are the first major hurdles of candidature. Within six months of commencement, doctoral students must submit a formal written research proposal and present this proposal within their faculty in order to complete the first component of the structured doctoral program and proceed from provisional to full candidature. This includes multiple tasks and documents, including submission of a formal research proposal, which includes a chapter-length literature review, completion of all faculty and graduate centre inductions, attendance at their school or faculty seminar program, presentation of their research proposal to the faculty seminar at some point, and, for international students, participation in a bridging course.

As indicated in the first chapter, the written proposal outlines the research project which is to be undertaken over the course of candidature and will eventually be written up as the student's thesis. It is a high-stakes document which must be precisely formatted to the faculty version of the institutional template. Students must submit a monograph of up to 5,000 words which includes introductory background/literature review, research questions, aims/objectives, theoretical frameworks and methods, and significance/contribution, and additional project management details, including budget, timeline and training needs. A summarised version of the health sciences template is shown in Table 2. The document is submitted to a review panel composed of various senior academic staff who evaluate the proposal and determine whether the student can continue into full candidature. For international students, the stakes tend to involve scholarship funding.

Table 2. Doctoral research proposal elements

LIBRARY NOTE:

This table has been removed to comply with copyright.

Presentation of the research proposal is verified as a ticked box on submitted paperwork. There is little specific guidance on the presentation, other than that it should present the proposal at the seminar, typically in a 20-minute slot, followed by questions. The proposal typically contains more than 20-minutes' worth of content: ~5,000 words is over 30-minutes' worth. A school handbook available at the time of data collection specified contents in more detail: 'the background to the research topic, hypothesis and aims, methodology and any preliminary results'. The research proposal template further defines the background as '*a critical review of the literature, in a logical progression from the broad perspective to the specific, defining the gaps in knowledge and justifying the proposed research'*. The level of precision and detail required in the research proposal is demanding. Candidates must synthesise large amounts of

information and language, and engage in intricate debate with experts in the field. By the six-month mark, around the time of submission for the proposal, candidates are expected to be operating at a high level of research enquiry (Willison et al. 2009; Willison & O'Regan 2008). These expectations include that the research proposal must identify a justified gap which links to current literature, and '*critically synthesise and evaluate the most relevant findings'*. Methodology must have '*sufficient detail to enable evaluation of project viability'* and '*answer the questions'*. The candidate's discursive voice must be clearly distinguishable, and language errors must not impede meaning (Willison & O'Regan 2008). This can be a tall order for HDR students, who are new entrants into the domain of knowledge production rather than reproduction (Bernstein 1990). Learning to undertake research independently, to convey disciplinary meanings in the correct technical language, and to develop lengthy, intricate, and well-structured arguments, are significant challenges for any doctoral student, and often particularly so for those in Science, Technology, Engineering and Maths (STEM) disciplines, who may be unused to the language demands of the kinds of texts required of research candidature. STEM research using qualitative methodologies which require some degree of empathic orientation to human study participants, rather than a more epistemologically simple treatment of participants as data, can be especially fraught in terms of writing (Gilgun 2005). For commencing HDRs who completed previous studies elsewhere, and perhaps long ago, adjustment to the academic culture of the receiving institution is a major challenge. Many HDR students who have come later into their careers, with experience lecturing or practising in the discipline's professional field, benefit from guidance in adjusting to research literacies and extending their professional persona into an academic one. The implications for institutions are significant, as HDRs are central to the production of new disciplinary knowledge (Smith 2000: 29; Siddle 1997).

While language and education specialists argue that language is inseparable from what it encodes, doctoral supervisors tend to assume an objectivist stance towards language and learning. Supervisor knowledge about language is predominantly tacit, and language support is viewed as separate and remedial, and expression as something that simply added to a manuscript at a later point if necessary (Swales 1990; Lillis 2001; Turner 2009). Supervisors tend to view teaching and learning practices in general as outside the scope of supervision (Grant 2000; Bruce et al. 2009), following an apprentice model where students are expected to 'self-acculturate' and work autonomously from the very beginning of their candidature (Manathunga 2005). Specialists outside of the discipline fill in gaps (Smith 2000: 27). The

heavy loads of early candidature mean it is particularly important that language support for doctoral candidates is easily accessible and highly targeted. Despite this, the location, resourcing, and stability of research literacies support is highly variable (see Wingate 2006; Barthel 2015).

2.2 Language support

Current approaches to doctoral-level literacies support in Australian institutions, representing the overlapping fields of researcher education, English for specific purposes (ESP) and academic language and learning (ALL), are outlined below.

2.2.1 Researcher education and development

Researcher education aims to support research students and early career researchers both with writing and with broader research skills, complementing faculty supervision. The value of external literacies support for HDRs is well established (Swales 1990; Kay & Dudley-Evans 1998; Lovitts 2001; Kirschner, Sweller & Clark 2006). A core goal of researcher education specialists is to transform tacit knowledge about disciplinary language into explicit knowledge, and thereby enable students to produce valued discourse. HDR candidates are much more able to successfully produce required texts within the rapid timeframes of research candidature when they have access to targeted support that explicitly articulates the 'unwritten rules' for relevant texts alongside authentic examples (Lovitts 2001; Huang 2014; Mickan 2017). Specialists have widely adopted ESP genre approaches, outlined further in this chapter, which involve examining exemplar texts for rhetorical 'moves' and typical language features, and showing writers how to incorporate these patterns into their own writing (Swales 1990; Hyland 2007).

Researcher and ALL support has gradually shifted away from instruction in 'skills-based' instruction, towards a focus on discipline-specific language and practices, referred to as 'Academic Literacies'/ 'situated literacies'/'multiliteracies' models (Hyland 2002, 2009; Lea 2004, Lea & Street, 1998, 2006; Lillis 2001, 2003; Lillis & Scott, 2007; Wingate 2012). Academic Literacies links language practices to the activities of the disciplinary communities in which they function. Research literacies go far beyond study skills, positing that mastery of academic language requires an understanding of the values and conventions within the discipline. The political and broader social contexts of discourse are raised, and language

choices are explored in terms of identities (Canagarajah 2002). The approach centralises equity and the needs and circumstances of non-traditional students, such as those within the 'outer circle' of world Englishes. Literacies work is thus conscious of identity, power, interactions, and practices (Anderson 2013:87). This kind of literacies support is especially valuable for International HDR candidates working in English as an additional language (EAL). In Australia there is a strong tradition of academic literacies support oriented to the needs of international scholars, due to the significant proportion of international students enrolled at Australian universities. International HDRs are an increasingly important cohort here, particularly in STEM disciplines, even throughout the current pandemic which has severely restricted mobility (Universities Australia 2020 Report: 36-37; Chew 2021).

Scholars working in EAL face particular challenges in meeting the expectations of research scholarship at the receiving institution, and are owed a duty of care. International HDRs often enter programs at levels of fluency and experience not necessarily aligned with the highly specialised language practices involved in research candidature (Cooley & Lewkowicz 1995; Starfield 2004: 139; Arkoudis, Richardson & Baik 2012). Previous completion of an English-medium degree is, surprisingly, a poor indicator of English proficiency (Birrell 2006; Birrell & Healey 2008; Leki 2009; Chang 2011: 227; Dreyfus et al. 2016). It is difficult for those studying and working in EAL to rapidly master not only the grammar and the massive vocabulary of English, but new patterns of register, collocation, ellipsis, cohesion, and so on. Frequently mentioned is EAL writers' struggle with achieving 'critical' writing, that is with the enactment of stance and evaluation (Picard & Guerin 2011). Having to learn most aspects of academic English formally and rapidly, students may have not yet acquired adequate command of the significant number of words and word forms required to formulate subtle but meaningful inflections in meaning, including in citation and evaluation (Pecorari 2008), or even logical connectors, for example, using 'moreover' or 'besides' as neutral additives (Green et al., 2000). For a recent and robust discussion of the pressures and linguistic challenges for international scholars, see Flowerdew (2019).

Speaking can also be difficult for scholars working in EAL. The reticence of many international students, both graduate and undergraduate, to speak freely and lead discussions has been identified by multiple studies (Morita 2000; Kim 2006; Lee 2009). Many international HDRs are very reluctant to seek help from their supervisors until they feel they have managed to improve their English language fluency on their own (Sung 2000), and supervisory

relationships can themselves be fraught due to cultural mismatches (Wisker 2000; Wisker et al. 2007). For international HDRs, negotiations of identity, language, and specialist knowledge development are intertwined (Teramoto & Mickan 2008:48). Studies including (Chang and Kanno, 2010) have shown that international doctoral students often strategically circumvent language issues, and leverage kinds of knowledge capital other than English fluency in their interactions within their faculties and wider research communities.

Disciplinarity is a priority in HDR literacies support programs. It is very well established that different fields of study have their own particular circumstances and approaches to knowledge, and that language from the academic disciplines packages information and constructs arguments in alignment with disciplinary epistemology, resulting in disciplinary variation in texts (Berkenkotter & Huckin 1995; Lea & Street 1998; Hyland 2002; Hyland, 2008; Parodi 2008; Rose & Martin 2012; Mickan 2012). Discursive disciplinary differences have long been explored along Biglan's (1973) Hard/Soft/Applied/Pure dimensions as well as more precise categorisations. For example, through corpus-based analysis it has been shown that social sciences strongly prefer story-like text structures, in contrast to engineering and natural sciences disciplines (Biber 2006). Awareness of how literacy practices are informed by epistemologies are highly valuable for doctoral students (Shinew & Moore 2010), and in EAL contexts (Dong 1996; Bruce 2011). In the face of innumerable known and potential variation between disciplines, and limited time and ability to explore these differences, a key role of literacies specialists is not to catalogue disciplinary differences but to raise student consciousness of disciplinarity, and of how it *may* manifest in texts (Cheng 2018).

2.2.2 Oral literacies

There are a number of key oral literacies in higher education: supervision, tutorial dialogue, presenting, and classroom discourse. Here, I focus on presenting.

Resources suitable for HDRs presenting a proposal are relatively sparse. Much of the guidance for students on presenting tends to be very general and based on other text types and contexts. Existing materials tend to focus on the needs of undergraduate students (Drew & Bingham 2004; Miles 2009; Marton 2009; Kelson 2019) and of the presentation of sandwich structure expositions (Levrai & Bolster 2015). Presentation guidelines that are aimed at researchers in the disciplines are focused on conference presentations (Zobel 2004) and general principles for seasoned researchers (Booth 1993; Lewin 2010). Much is focused on confidence and cliché

avoidance. Zareva's recent review of publications on academic presenting similarly finds that most constitute very general advice for novice presenters rather than any deeper analysis of discourse (Zareva 2020, Ch. 2).

Presenting is a particular concern with international HDRs working in EAL (English as an additional language), who rate academic presenting a higher priority than any other language skill (Janssen et al. 2012: 58; Kim 2006). For international research candidates, presentations can be face-threatening events which foreground many of the cultural and linguistic issues encountered in adapting to the norms of Australian institutions (Cadman 1997, 2000; Han & Zhao 2008; Duff 2010:170). Zareva (2011) describes the immense pressure that oral presenting can involve for EAL graduate students, and the expectation that they immediately master spoken genres through exposure alone. EAL students tend to have minimal prior experience in giving formal academic presentations in any language, and often deliver presentations which are writerly or recited (Nausa 2017; Orr et al. 2005; Zappa-Hollman 2007; Zareva 2009, 2012; Carter 2019; Weissberg 1993). Studies into presenting are often motivated by a pedagogical desire to support this cohort. Work has identified the enactment of distinct novice, intermediate, and expert voices within academic presentations, stressing the importance of the expression of evaluation and interactive elements (Swales et al. 2001; Morton 2009). Researchers have recommended explicit teaching of frame markers (Yu & Cadman 2009), lexical bundles (Nausa 2013), and linking adverbials (Zareva 2011), clear pronunciation and eye contact (Otoshi & Heffernen 2008), flexibility (Orr, Yamazaki, Gupta & Anthony 2005), and self-reflection (Boyd 1989). Greater use of images can 'compensate for verbal deficiencies' (Morell, 2015). Previous work into EAL speaking has often focused on parameters of competence such as lexical density and sophistication. Other work into planned academic speaking has focused on language features and processes, such as interactivity, discourse signals and phenomena related to listener comprehension (Flowerdew 1994; Alessi 2005; Bamford 2005).

For HDRs, presentations represent the performance and development of disciplinary expertise. Participants must deliver highly sophisticated discourse. They must negotiate space within the discipline for their own research, making appropriate claims to expertise, and managing membershipping strategies (Riley 2002:44), relational to the discursive positionings and claims of other participants within that particular language event (Jacoby & Gonzales 1991). Focusing extensively on doctoral-level EAL speaking, Ricardo Nausa has examined learning needs (2012) and also discourse patterns, including doctoral students' linguistic construal of original

research (2017), their reformulation of technical content into glosses (2019), and their use of pronouns in the projection of a scholarly self (2020). Nausa's findings speak to the surprising complexity and sophistication of discourse involved in academic speaking, and the intense level of tailoring content for mode. Structured support of spoken academic literacies is therefore a highly valuable role for research language specialists in contact with commencing doctoral candidates.

2.3 Moves and structures: creating a research space

Academic literacy support has long drawn from the extensive body of work within English for Specific Purposes (ESP). ESP is an umbrella term; subfields within ESP include English for Academic Purposes (Hyland 2007; Ding & Bruce 2017) and English for Research Publication Purposes (Cargill & O'Connor, 2009). The bridging course which provided the context for the texts under consideration utilised ESP tools and adopted a genre-based approach to teaching the research proposal. The ESP approach is outlined here.

2.3.1 Genre as moves and conventions

English for Specific Purposes is interested in how English is used in academic and occupational domains, with the goal of supporting those who need to use it, particularly speakers working in English as an additional language. ESP understands language as social, and is interested in how different types of language is used by groups of people with shared purposes, referred to as discourse communities. Membership into a discourse community, such as a research discipline, involves participation in and eventual mastery of a range of language events, known as genres, which represent a 'set of communicative purposes' (Swales 1990: 58). Individual genres are the named groups of texts used for certain purposes within a community of practice, such as 'research article' or 'grant proposal'. ESP approaches privilege the perspectives of language users, with individual genres defined by the discourse community. Genres are understood to reflect the values, norms, and activities of the discourse communities who engage in them. Genre analysis has examined texts in terms of their grammatical features, their rhetorical structures/'moves', and the relationship between the two.

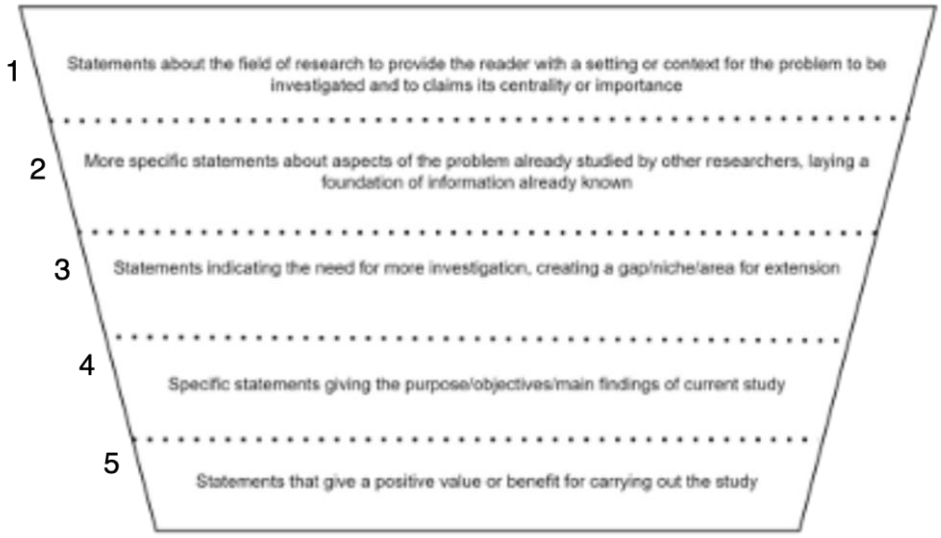
Genre analysis, or moves analysis, involves investigation of a group of texts representing a specific genre, and identification of the common rhetorical moves that operate within these texts, with a general, though usually flexible, ordering. Each move or submove characterises a

specific contribution to a larger communicative purpose. This approach to analysis was first developed by Malcolm Swales in the 1980s and early 90s, crystallised in his (1990) Create-a-Research-Space (CARS) model of introduction sections in research articles, which is still used in various forms more than 30 years later. As per Swales, academic introductions involve the following moves:

1. *establish a territory,*
2. *establish a niche, and*
3. *occupy the niche* (Swales 1990: 137–165).

Together these moves, enacted through a choice of steps dependent on discipline and study particulars, 'create space' for the research within the field. A model similar to Swales', proposed in Weissburg and Buker (1990), and further developed by Cargill and O'Connor (2013), summarised in Figure 1 below, emphasises the general-to-specific movement of each move ('stage') of the introduction through a trapezoid spatial metaphor.

Table 3. Research article introduction structure (based on Cargill & O'Connor 2013 and Weissberg 1990).



In classrooms and workshops, moves models characterising a genre or key parts of a genre are used to help writers understand the types of argumentation and the patterns of words and grammatical structures that tend to occur within the academic genres that they need to produce. There is no set teaching method other than to explicitly identify language functions and features. Annotated example texts, skeleton structures, and templates which show how each

move is enacted in a text are used as a base for the scaffolded construction of student texts. Through the exemplars, teachers unpack what each move does, draw attention to where it appears in a text, identify which steps are employed to fulfil the move, and identify key language features with which the move/step is associated. Through this, students are able to reproduce these functions in their own writing, thus acquiring the genre, and (ideally) developing awareness of text mechanics, recognising potential impacts of language choices in context as they are encountered, and adapting flexibly to multiple genres as needed.

While genre-based pedagogy can be critiqued as normative, and as reproducing dominant power structures (Lillis & Scott, 2007), the approach is broadly accepted to be complementary to Academic Literacies perspectives, providing students with a concrete base underpinning broader critical awareness of texts (Wingate 2012). Access to discourses of power via mastery is foundational to social justice.

Genre-based instruction is now widely implemented. The approach has proven fruitful for students (Swales & Feak 1994; Hyon 2001, Gardner 2012), and also for researchers refining writing intended for journal publication (see Cargill & O'Connor 2009, 2013; Burgess at al. 2013; Li et al. 2018). Move models have been used extensively within researcher education to teach academic writing, for example, in the writing of sections of texts such as *abstracts* (Van Bonn & Swales, 2007), *introductions* (Swales 1990; Samraj 2002) and *results* (Bruce 2009). The models have been adapted to a variety of genres, including a number adjacent to doctoral proposals, such as three-minute thesis presentations (Hu & Lui, 2018), written grant proposals (Connor & Mauranen 1995, 1999; Connor 2000; Tardy 2003, 2011; Feng & Shi 2004; Feng 2008; Ding, 2008; Flowerdew 2016), conference presentations (Thompson 1994, 1997; Rowley-Jolivet & Carter-Thomas 2005), peer seminars (Aguilar 2004), doctoral theses (Bunton 2002; Kwan 2006), and product pitches (Moreau 2018). The following sections, 2.3.2 and 2.3.3, outline some of the research conducted into both types of language entailed in proposal presentations: these are written proposals, and academic presentations.

2.3.2 Written proposals

The discourse and structuring of written proposals have been relatively well examined (e.g. Connor & Mauranen 1995, 1999; Connor 2000; Tardy 2003, 2011; Feng & Shi 2004; Feng 2008; Ding, 2008; Flowerdew 2016; Cheung 2017a, 2017b; Schneider & Fuller 2018). As research proposals are submitted to very specific audiences, the contents and structuring of

proposals are invariably dictated by the requirements, guidelines, and templates of the relevant approving body (see Figure 2), heavily influencing the text. Generally, the broad moves of a proposal are outlined in Schneider and Fuller's (2018) guide:

- *Identify an important research topic or problem*
- *Provide evidence from the literature that the study needs to be done*
- *Establish a research question*
- *Set out a plan on how data will be collected and analysed* (2018:2).

The vast majority of work on proposals has focused on grant proposals (e.g. Connor & Mauranen 1999; Connor & Upton 2004; Feng & Shi 2004; Tardy 2011). Grant proposals are intensely competitive and high-stakes genres for researchers, requiring careful persuasive work; some findings may be transferrable to lower-stakes proposals, though others may not. An analysis of grant proposals in chemistry and physics by Pascual and Unger (2010) found that grant proposal writers were very diplomatic, incorporating openness to multiple 'voices' or perspectives, as a way to hedge bets when dealing with an unknown reader in a high-stakes context, as well as extensive self-citation as proof of competence (:276–277). As doctoral candidates a) do indeed know at least part of their readership, and b) are unlikely to have much of a history of publications from which to self-cite, the use of these strategies may not be the case for doctoral proposals.

Research student proposals have been less well studied, but seem to have similar functions of providing a rationale for the proposed research, some type of plan, and some kind of claim of the competence of the authors (e.g. Gardner 2012). Interestingly, Cheung's (2017a; 2017b) examination of evaluation and stance in Master's level research proposals found that these proposals tended to have a distinctive introduction structure: many authors excluded or minimised a review of previous literature, emphasising their topic and focus in other ways (Cheung, 2017b:241).

For doctoral candidates, an institutional template necessarily shapes the structure and contents of the written proposal. In this case, and likely in others, the doctoral proposal template includes many sections similar to those identified by Swales (1990), as well as sections pertaining to project management contents, such as budget and skills trainings, reflecting the documents' lower stakes (as approval is likely), and an extended literature review, reflecting the pedagogic nature of the document.

2.3.3 Presentations: structure

The structure of a doctoral research proposal presentation is likely to be influenced by a number of adjacent and connected texts: the written proposal; academic presentation structures learned during undergraduate years; and conference presentations.

Analysis of research presentations has primarily been of those that are most accessible to analysts, namely student presentations, conference presentations, and lectures. Work by Dubois in the 1980s examined the structures of scientific conference presentations, identifying a reiterative sequence within the Body stage of a scientific presentation of situation^event^commentary (1980: 151). Weissberg's (1993) exploration of graduate student presentations noted that students tended to replicate the parallel written texts, sometimes verbatim, save for minimal discussion of other literature in the field (:26–27), which has been echoed by subsequent studies (e.g. Zareva 2013).

Presentation introductions have received particular focus in the literature. Elizabeth Rowley-Jolivet and Shirley Carter-Thomas, who have contributed heavily to analysis of scientific presentations, identified a number of rhetorical moves in the introductions of academic presentations by experienced scholars, observing the structure of argumentation within presentation introductions to be 'markedly' different from that of introductions within the parallel written texts (2005, 2008). They identified three stages for conference presentation introductions:

1. *setting up the framework*
2. *contextualising the topic*
3. *giving the research rationale* (2005).

Speakers begin presentations by first setting up the relationship between the speaker and audience, and, similar to the role of an abstract in a written text, setting up the audience's expectations for what is to follow. The discourse functions of this 'setting up' stage are explored in finer detail by Hood and Forey (2005). After this stage, speakers provide the context and rationale for the topic of the research, before outlining the details of the study under discussion. This does not necessarily include an explicit gap, though is otherwise rhetorically similar to the structure of a written academic introduction. Rowley-Jolivet and Carter-Thomas

(2008) noted the difficulty of delineating one stage from another in spoken texts, due to generalisation and ambiguity.

In a more recent study, Hu and Lui (2018) characterise 'Three Minute Thesis' presentations in terms of eight moves: *Orientation* (similar to Set-Up); *Rationale* and *Purpose* (again, like *contextualisation* and *rationale*, similar to an academic Introduction); *Framework, Methods, Results, Implication,* and *Termination*. They found that Framework and Results were optional stages with strong disciplinarity: soft sciences tended to include Frameworks but not Results; and vice versa for hard sciences.

2.4 Bridging program context

This section provides a short overview the bridging course which serves as the context for this thesis, as well as some key teaching materials. A session outline is provided in Appendices.

2.4.1 Pedagogy of connection

The bridging course was a semester-long concurrent bridging course for commencing international doctoral students designed to give students access to the academic, linguistic and cultural conventions of Australian postgraduate scholarship. The course was part of a doctoral program milestone due at six months after commencement, with participation determined by the student's international status and at the recommendation of supervisors. The course was streamed according to faculty, with four hours of classroom contact per week, and an hour or more of individual consultations per semester. The program consciously foregrounded participants' identities as early career researchers, embodying a 'safe houses within contact zones' framework (Canagarajah 1997; Pratt 1991), as a supportive community of practice which provides modelling and support for completion of texts and compliance paperwork. Discussion, interaction, and flexibility were prioritised. Cadman (2005) described such an approach as a 'pedagogy of connection'. A detailed summary of course sessions and contents is given in Appendices.

2.4.2 Genre approach

The main focus of the course was supporting students with the completion of the formal research proposal and associated documentation. Templates and expectations for the proposal differed slightly across faculties, and the program emphasised disciplinary variability in

language. Students were encouraged to view their disciplines and local research communities as tribes of which they were members (Becher 1989) and given strategies for refining their writing, including how to use custom corpus and concordancing tools to investigate language features of target genres. The program utilised an ESP genre-based approach to address writing, featuring a five-stage introduction model based on Weissberg and Buker (1990). One workshop offered a faerie story metaphor, which made explicit the problem^solution axiology of the doctoral research proposal (Figure 1 and Figure 2); the proposal was construed as narrative: problem as dragon; researcher as hero; and methodology as weapon.

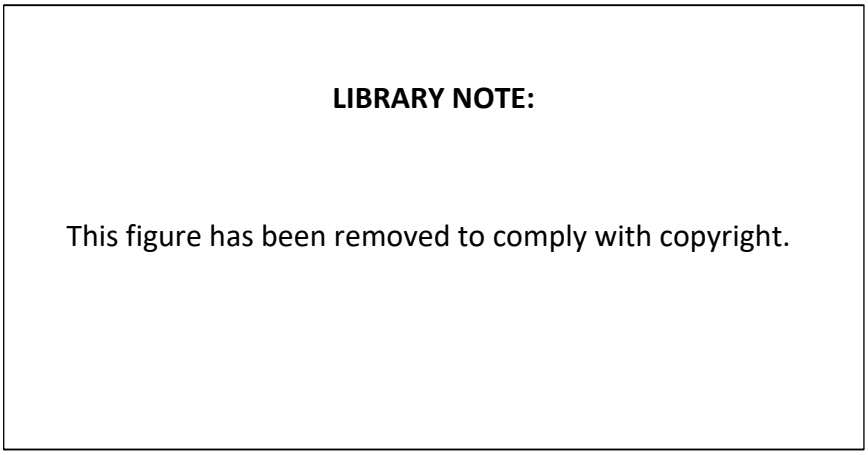


Figure 1.'The Story of the Research Proposal' slide a, Research Proposal workshop

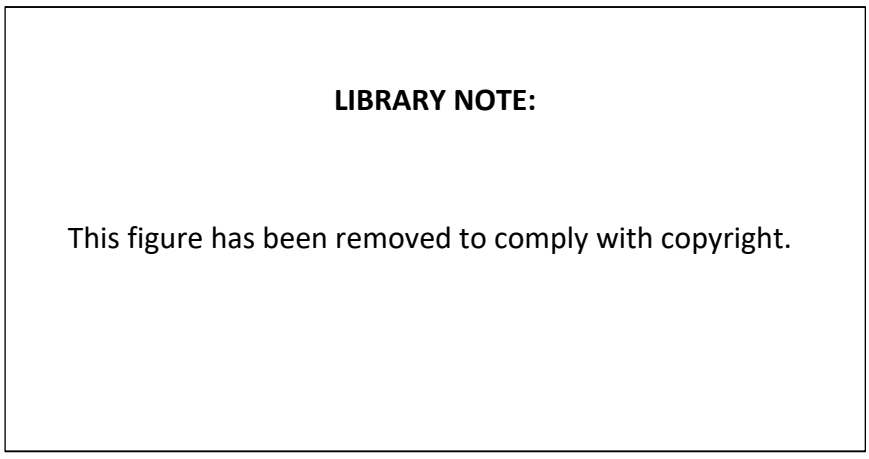


Figure 2. 'The Story of the Research Proposal' slide b, Research Proposal workshop

The course culminated in a student-managed presentation seminar, where candidates formally delivered their research proposal presentation to their supervisors. The dataset for this thesis includes five of these practice research proposal presentations. The course seminar functioned as a dress rehearsal, and the presentations were subsequently delivered to the student's school as a condition of entry to full candidature.

The resourcing and ethos of the bridging course enabled flexibility of timing to suit individual students. Students who had joined the program in the previous semester but who for some reason had not yet delivered the proposal presentation were able to do so as a guest presenter during the initial weeks of the next semester. This had the considerable benefit of exposing the current students to a doctoral proposal presentation.

2.4.3 Guidance on presenting

The bridging course provided several sessions on presenting, focusing on both process and product. Process-focus activities included weekly structured small-group speaking activities in which candidates rehearsed speaking aloud to explain their projects, and sessions on local pronunciation of technical and academic lexis. Product-focus activities focused on aspects of register (glossed as 'formality' or 'appropriateness'), with students directed to consider audience, tone, content, and format. The concept of multiple communicative purposes was broached, as shown in a program slide including 'presenting your research proposal', and 'presenting yourself as a researcher'. Students were directed to emphasise the value and key focus of their projects, and to avoid teaching/lecturing (Fig. 3).

LIBRARY NOTE:

This figure has been removed to comply with copyright.

Figure 3. Slides for Oral Presentations workshop

The bridging program was more generalist in its support for presentations than for written texts, and as a result included slightly mixed advice in terms of the staging. Indeed, this gap was the impetus for the current research. A seminar on oral presentations suggested adopting a 'journalist's approach' of putting the most compelling information first, and a *preview^body^summary* sandwich-style staging common to expository or discussion essays.

LIBRARY NOTE:

This figure has been removed to comply with copyright.

Figure 4. 'Organising your presentation' slide, Oral Presentations seminar

The parallel paper (Table 1) involved an additional staging pattern that might be transferred to the presentation, of *introduction* ^ *research questions* ^ *aims/objectives* ^*methods* ^ *significance*.

The bridging program required disciplinary supervisor attendance at the presentation seminar and feedback on the presentation. A 26-item feedback form (Figure 5) covered content and performance aspects of presenting, focusing predominantly on clarity. Flexibility in the questions concerning the 'appropriateness'/'suitability of slides', content, organisation and delivery allowed room for disciplinary variation in feedback. The form also implied expectation of inclusion of *introduction* and *conclusion* stages, by asking if they were 'clear and effective'.

LIBRARY NOTE:

This figure has been removed to comply with copyright.

Figure 5. Presentation feedback form (de-identified)

2.5 Variation and limitations

Disciplinarity represents an ongoing challenge for academic literacies support. Research literacies specialists are typically from education and social sciences backgrounds, yet they support students from across the disciplines. The disciplines each have different assumptions concerning approaches to phenomena, research design, methodology, and the construction of argument. Some differences are visible; many are not, and epistemological clashes inevitably occur within cross-disciplinary contexts as even those with a conscious awareness of disciplinarity will inevitably apply invisible assumptions to literacy practices (Beers 1988; Bruce 2011; Sheridan-Rabideau et al. 2002). For example, embarrassingly, in my own teaching, for many years I remained oblivious to the importance of final slides which say simply 'thank you for listening', or similar. I was dismissive, describing them as informal, until I happened to spend time working with experienced researchers in the agricultural sciences; it eventually dawned on me that the slides reflect the values of collaboration and gratitude, and that it is actually important for researchers to acknowledge financial and practical support. Contact with the relevant disciplines through HDR supervisors represents a valuable resource for disciplinary input, particularly elicitation of supervisor feedback on open and flexible concepts, that is of 'appropriateness', to scaffold opportunities for disciplinary perspectives on specific features of the text, whatever they might involve. However, scaffolded interaction with supervisors, if it can be orchestrated at all, is highly time-limited. Thus, literacies specialists must largely respond to the challenge of disciplinary variation by focusing on raising students' awareness of disciplinarity and language conventions (Cheng 2018). For this to work, models and theories of text are necessary, in order specialists to themselves be aware of what types of differences are likely to be relevant, so that they may in turn provide metalanguage and suggest key discourse features for analysis to students. Literacy specialists are thus to a large degree reliant on text-based analysis of artefacts such as published journal articles.

In order for text-based analysis for disciplinary targeted resources to be useful to students, two elements are required:

1. access to relevant texts, and
2. accurate interpretation of salient language features.

For presentation texts, both elements are limited. This is due to practical and also methodological reasons.

2.5.1 Extending our theoretical reach

Moves models have been used to explore disciplinary variation in academic writing and presenting. For example, the 'soft' disciplines involve competing models or approaches, and authors/presenters must therefore devote time to explaining their particular theoretical basis and frameworks for the research; in 'hard' disciplines, which have established frameworks, this is not necessary, and focus instead tends to be on methods (Hu & Lui, 2018). However, description can proliferate. For example, analysis of grant proposals from different disciplines revealed that the moves were manifested differently by researchers of different disciplines, and of different genders (Connor 2000). This analysis also found that the moves were not fixed in order, nor were all moves obligatory, and furthermore that moves could overlap with each other (2009: 22). Researchers within ESP such as Barsturkmen (2012) acknowledge the inability of move-structure analysis alone to reliably distinguish disciplinary variation, and the need to drill deeper and deeper down into 'substep' levels. Generalisation from one set of texts to any other may be inaccurate.

In order to fully and accurately map differences between groups of texts and to accommodate intracategory variation, further moves, or steps, or caveats, may need to be added to the model, potentially ad infinitum. It can therefore be useful to adopt a bottom-up approach to disciplinary language, rather than top-down. Moves structures can be hyper-targeted for an individual scholar's needs through student-generated auto-ethnographic strategies which focus on an individualised specific subfield. Literacies specialists can provide students with metalanguage for writing, including *moves*, *personal pronouns*, and so on, encouraging students to become 'ethnographers of their own discipline' (Picard et al. 2011) who can identify patterns in disciplinary texts. Students create a micro-corpus of target texts within the field, search through the corpus to examine language features, and emulate them in their own writing (Flowerdew 2004; Cargill & Adams 2005; Burgess & Cargill 2012).

While micro-corpus strategies work well and are highly practical and convenient for support with writing, this is not the case for support with presenting. The difficulties in obtaining presentations as texts for analysis are well acknowledged (Rowley-Jolivet, 2002). Presentations within a similar register, such as recorded plenaries, or even recorded lectures or TED talks, are not easily or rapidly searchable, and transcripts are rare. The largest corpora of academic spoken language transcripts is the Michigan Corpus of Academic Spoken English (MICASE) (Simpson et al. 1999), which contains few transcripts of graduate presentations in

biological and health sciences; a recent search offers up a single specimen. Limited access to the text type also limits the ability of specialists to generate targeted advice, or to even be aware of what might be significant. Of course, many of the salient language features of spoken academic presentations may not be well captured in transcripts anyway.

In addition to practical issues, another type of challenge for addressing disciplinary language arises in connection with the theoretical boundaries of ESP, and its orientation to certain kinds of meanings. A focus on formal grammatical categories creates difficulties in accounting for some rhetorical functions, particularly interpersonal meanings which have been shown to operate in prosodic or radiating patterns, colouring surrounding text with positive or negative axiological charge. Despite a considerable body of literature addressing *metadiscourse*, persuasion and interpersonal aspects of language remain somewhat undertheorised. While persuasion is recognised as a fundamental aspect of academic language, it is particularly difficult to articulate implicit mechanisms which may be especially powerful in academic texts. For example, studies may address citation in terms of choices of reporting verbs (e.g. Hyland, 1999) without addressing ways of referring to other research which do not involve reporting verbs.

A more fully theorised approach to language, which integrates analysis of metadiscourse with discourse, is represented by systemic functional linguistics (SFL). SFL sees language as multilayered, metafunctional system, and represents a comprehensive approach to genre and linguistic analysis (Hyland 2007). Adopting the Bakhtinian approach to language as fundamentally social, interactional, and dialogically oriented (White 2000; Bakhtin 1981), SFL integrates analysis of evaluation, and does not need to delineate 'propositional' from 'nonpropositional' language (Vande Kopple, 1985:83), or epistemic modality from other kinds of evaluation (Biber et al.1999; Conrad & Biber, 2000). SFL allows analysis not only of how discourse communities use language to build disciplinary knowledge, but what the nature of that knowledge actually is. The next chapter describes SFL, outlines key concepts which enable analysis of text which relates expression at the level of wordings to semantics and the enactment of broader social purposes.

Summary

This chapter has characterised the research proposal presentation as a task which is aligned to its parallel text. It has described productive approaches to academic writing and genre in

researcher education that have been developed within the ESP tradition, including the use of models and exemplar texts to scaffold academic literacy practices and the extensive work on the introduction stages of texts. It has described the lack of research into doctoral proposal presentations, and described work on similar types of texts, which identify a largely consistent deployment of staged introductions, with further content determined by the specific audience and purpose. The chapter then described the bridging program in which the texts under consideration in this thesis were generated, and its flexible and ethnographic approach to supporting students in the disciplines with writing and presenting. It outlined a number of key course materials relating to the proposal presentations, and identified the impetus for the current research as the limited and potentially conflicting advice on the staging of the proposal presentation. It then highlighted the inherent challenge of disciplinarity in mixed discipline contexts, and the scope of moves models and corpus approaches in terms of accounting for variation when relying on disciplinary artefacts for informing research support. Finally, the chapter proposed adoption of the comprehensively theorised model of language, SFL, in order to push understanding of language in the disciplines further forward.

Chapter 3 Frameworks and Literature

This chapter reviews the frameworks and literature underpinning the research design and methodology of the present study. It describes key aspects of the systemic functional linguistic (SFL) approach to language, and its perspective of language as a metafunctional and stratified system of potential resources for meaning-making which is manifested in specific instantiations and syntagmatic chains. The chapter describes a number of systems within SFL relevant to the current research, namely transitivity, theme, and appraisal, through which authors construe reality, organise meanings, and create relationships with the audience, and describes how these systems are known to be realised in academic texts. The chapter characterises the SFL approach to genre, which situates genres as resources of social purpose. It outlines key genres in academic contexts and their stagings, and then describes how genres can be combined in the service of larger texts. Genre is particularly important as a basis for analysis, as social purpose relates intimately to the instantiation of register and discourse semantics; doctoral proposals represent a type of procedural report genre which is emergently persuasive. In order to capture the significant shift in register between the very first and last moments of a presentation and to clarify terminology, academic presentations are characterised in terms of an embedded Body, of the report proper, within a larger peritext-like superstructure of Set-Up and Close.

3.1 SFL Approach to Language

Systemic functional linguistics understand language a social semiotic: a tool that is used by people for making meanings. As instances of language intrinsically relate to the social work that it does (Mickan 2017), SFL is therefore interested in what language actually *does*: how it functions as a tool for making meaning. Analysis in SFL involves both grammar and context, and is situated 'somewhere between the work of grammarians on one hand and social theorists on the other' (Martin and Rose 2007 (2003): 4). The social and interpersonal nature of academic discourse is inherent to its functioning: language 'is as it is because of what it has to do' (Halliday, 1973:34 in Eggins, 2004). Academic language, while focused on meanings about the nature of reality, is too understood to be fundamentally social in nature.

3.1.1 Model of language

Language is viewed within SFL in terms of resources and choices. Language as a whole is viewed as a resource, a system of potential meanings; individual texts are instantiations of language, representing particular choices made from within the larger system. From this perspective, language does not simply express meaning that exists somewhere else; language *is* meaning. Whole texts as instances of language are the central units of analysis in SFL, and important as objects of linguistic investigation, as social functions are enacted across stretches of discourse, rather than snippets.

As an *appliable* linguistics, SFL is interested in the actual social work that language performs, and has developed a range of tools for modelling and understanding language in use in context, explicitly accounting for how language works to *mean* (Rothery 1996). A driving force for much work in SFL is related to its view of discourse as linked to power. Based on Bernstein (1971, 1979), teaching and learning are reframed as 'visible semiotic mediation' which can make visible/explicit that which opens up access to discourses of power and influence, and thus redistribute access to power (Macken-Horiak 2002; Coffin & Donohue 2014). SFL. Genre pedagogy, which includes a distinct, task-based methodology of teaching literacy (Rose & Martin, 2012) began in primary schools and has since been deployed in the contexts of both primary and secondary schooling (Martin, 1999; Martin, 2006; Martin & Rose 2005; O'Halloran et al. 2015, Symons 2017; Fang et al. 2019), as well as universities and workplaces (Ellis, 2004; Coffin & Donohue 2014; Dreyfus et al. 2016; Geng & Wharton, 2019). The field has also long held a particular interest in scientific and disciplinary language, in relation to issues of access to discourses of power, and also in relation to understanding the nature of knowledge in the disciplines (Halliday 1985; Martin 1992; Halliday & Martin 1993; Halliday & Matthiessen 2004; Halliday 2004).

3.1.2 Scientific Language

Science can be characterised alongside other academic disciplines as an 'exploration field', that is language which is concerned with extending knowledge (Martin 1992). Science 'semioticises' the natural world (Martin & Rose, 2008), and its discourse is characterised by specialised technical terminology, presented in densely compacted strings, which taxonomise, describe, and explain. The work of science is realised linguistically through particular patterns of discourse and lexicogrammar–lexis and grammar considered as aspects or extremes of a single phenomenon rather than separate phenomena–which condense, organise, and stack

information (see Martin 1992; Halliday 1992; Halliday and Martin 1993). For example, the following abridged extract from an article in the journal The Lancet (source: Compston et al. 2019: 364) is typical of scientific language: dense, technical, and involves passive voice:

> *Osteoporosis is… a systemic skeletal disease characterised by low bone mass and microarchitectural deterioration of bone tissue, with a consequent increase in bone fragility and susceptibility to fracture.*

This extract involves a high percentage of lexical items, or words that carry content meaning (e.g. o*steoporosis, systemic, skeletal*), and a low percentage of grammatical items, words which support organise the lexical items (e.g. *is, as, by, and, of*). The lexical density of this extract, calculated as the number of lexical to grammatical items to a single clause (Halliday 1985: 67), is 9, which is indicative of highly edited written language rather than spontaneous spoken language, which might typically score 2 or 3. Furthermore, there is a high number of specialised technical terms. Though it begins with one familiar to most adults, *osteoporosis*, by the time we get to *microarchitectural* those of us without health sciences backgrounds may struggle. The extract is very densely packed with meanings, and includes a number of nominalisations, in which happenings and qualities are expressed as nouns (e.g. *deterioration, susceptibility, fragility*). The action occurring in the extract, expressed through the main verb 'is', is definitional, and short passive is also used, disappearing any human agent who might do the characterising. As the point of departure for the message is 'osteoporosis', which appears in the initial position within the clause, we can recognise that the extract functions to describe or categorise a technical phenomenon, perhaps as part of a longer report on the disease.

The Lancet extract represents many of the features common to scientific discourse, and, to some degree, is on its own a cohesive unit of meaning. However, the extract is only one small part of a larger text. We can tell that there is some particular reason for being given this information, and that there is probably more information to follow. Whole texts are the basic unit of analysis within SFL. In sociolinguistic approaches, language is viewed in its social context. The context of situation refers not to the immediate environment of the text but the context of the social situation–what the text is doing–as social functions are enacted across extended stretches of discourse. This is represented in Figure 6:

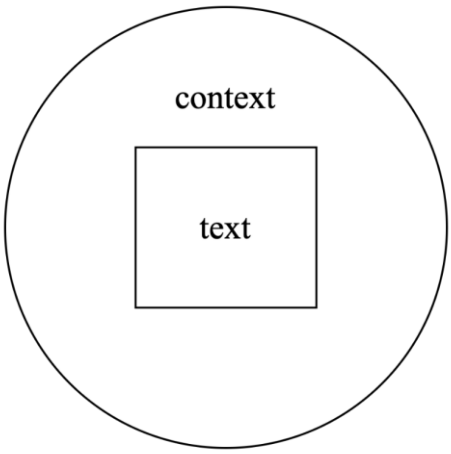


Figure 6. Language as text in social context

The following sections introduce key concepts in SFL theorisation which underpin the analyses within the current research: meaning as choice; stratification; register; and metafunction.

3.1.3 Choice, instantiation, and realisation

Systemic functional linguistics models language as systems of choices. Meaning is choice; where there is choice, we can mean (Martin 1992). While many approaches to language focus on syntagmatic relations, or the chains of language, SFL prioritises paradigmatic relations, the systems of choices available to speakers. From this paradigmatic perspective, individual words do not have inherent meaning, but rather they enact meaning as choices that are made in relation to other possible choices within the larger system of options. Units of meaning can therefore only be fully understood in the context of the choices that could have been made, that is the system of language in which they occur.

SFL understands language as operating across the levels of wordings, meanings, and social practice (Mattheissen et al. 2010). The relationship between semiotic potential of language as a system, and actual instances of language use in texts, is characterised as 'instantiation' (Martin & Rose 2007). A single text represents one instance of social meaning (Halliday 1985 :11). Just as 'weather' is an instance of the larger system of 'climate', texts are instantiations which both influence and are influenced by the broader system of language.

Hierarchy

In systemic functional theory, a distinction is made between paradigmatic choices and syntagmatic manifestations. Paradigmatic systems are the higher-order phenomena, which are activated or realised by syntagmatic chains (Mattheisen et al. 2010). Paradigmatic systems are

systems of choice. In SFL, language is modelled as a set of interconnecting systems of possible meanings; from this system, different sets of choices are made, simultaneously, to create particular meaning. The choice of one member of a set necessarily excludes other possible choices. In any language there are multiple subsystems which represent different possibilities of meanings, though this thesis is limited to discussion of those identified in English.

One set of choices, for example, is of speech function. When we say something, we have two types of choices to make at once: whether we are offering or demanding, and whether the target is information, or goods/services. Combining those two sets of choices, we can: make a statement (giving information); ask a question (demanding information); make an offer (giving goods/services); or give a command (demanding goods/services). The extract from The Lancet shown previously, for example, gives information. A different extract from another context could demand information on the same topic, for example by asking '*what is osteoporosis*?' or *'what is the prevalance of osteoporosis?'*. SFL represents these paradigmatic relations–the choice of giving or demanding–using system networks which show the conceptual pathways for choices, moving from left to right.

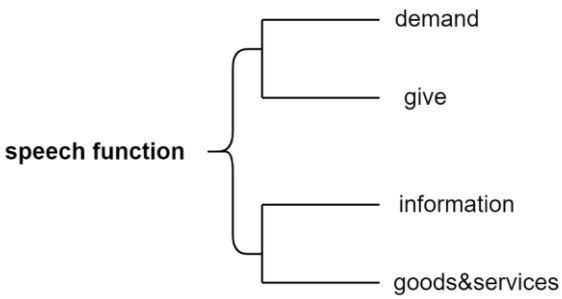


Figure 7. Speech function system network (based on Martin et al. 1997:58)

System networks can represent both *exclusive* choices, where one selection must be made, shown in curved brackets above, and *simultaneous* choices, where multiple selections must be made, shown in square brackets. System networks can be extended from left to right across tiers of increasing delicacy.

Syntagmatic structures, in contrast, are the unfolding chains of meaning that realise the higher-order paradigmatic choices. A text is realised syntagmatically, with meaning culminating progressively as it unfolds. Syntagmatic structuring, and the higher-order meanings that they construe, can be considered across whole texts, or across parts of texts. For example, at the

level of a clause, if we want to give information, we would typically do so via a declarative clause structure. A declarative clause structure is realised by placing the Subject before the Finite:

Osteoporosis	*is*	*a systemic skeletal disease...*
Subject	Finite	...

If we instead wanted to demand information, we would typically do so via an interrogative clause, which switches this ordering. We can map both possible structures to the broader system of choices, as in Figure 10:

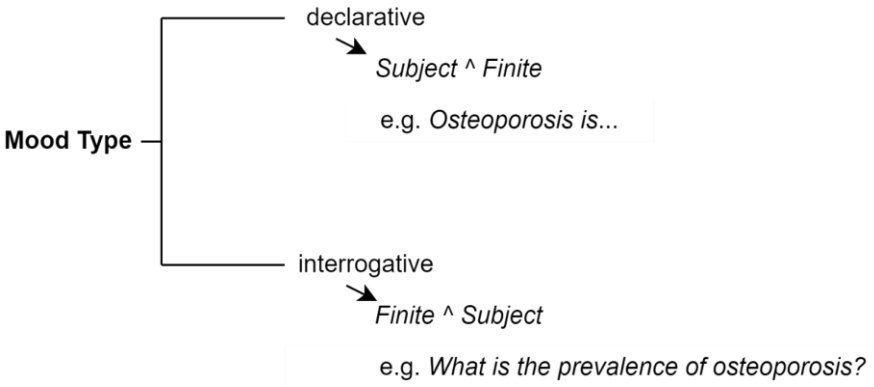


Figure 8. Structures in the Mood Type network

In SFL, spoken/written language represents one semiotic system of many. Where there is choice, we can mean. Semiosis is distinguishable from non-semiosis by its repetition and systemic nature, or by the fact that it is in some way recognisable as deliberate and meaningful rather than incidental (Martin & Zappavigna 2019). The extended field of Systemic Functional *Semiotics* which has blossomed from SFL explores how meanings can be made through systems such as image (Kress & van Leeuwen 1996/2006; O'Halloran 2005; Baldry & Thibault, 2006) and mathematical notation (O'Halloran 2000, 2003; Doran 2017), as well as analysing the relationships between modalitites (Royce, 2002, 2007; Lemke, 2002; Martinec & Salway 2005; Mattheissen 2006; Unsworth & Cléirigh, 2009; O'Halloran 2008). Language itself is inherently multimodal, spanning graphics, audio, and sign, with spoken utterances inherently entwined intonation and gesture (Martinec 2004), and writing and image increasingly integrated. In scientific texts, images are of particular importance. Scientific

results are as much images – tables, figures, or diagrams – as they are the commentary to interpret them.

While non-linguistic systems can make meanings, they are limited compared to language. The key difference between linguistic and non-linguistic semiosis is that language is tristratal, with the relationship between meaning and expression mediated by lexicogrammar, while non-linguistic semiosis involves a direct correspondence between content and expression (Halliday & Matthiessen, 1999). The tristratal nature of language, outlined below, allows it to be an infinitely re-combinable reflective resource for making meaning.

3.1.4 Stratification and metafunction

Stratification and metafunction are fundamental concepts in SFL. Stratification concerns the levels of abstraction through which we can view language. Metafunction refers to the types of meanings – ideational, interpersonal, and textual – that are made through language, as it simultaneously represents reality, enacts relationships, and organises itself.

Stratification

Stratification is the theorisation of language as nestled layers, comprising expression, lexicogrammar, discourse semantics, sitting in the context of its enactment of social activity (Martin 1992). The more concrete layers form patterns which activate, or *realise*, the more abstract layers.

The most concrete expression of language occurs at the stratum of phonology and graphology: phonology in spoken language, involving sounds, syllables, rhythm, and tones; graphology in written language, involving letters, symbols, and formatting. Patterns of phonological or graphological patterns realise meanings at the abstract strata of lexicogrammar, which involves words (lexis) and structures (grammar) constituting meanings at the level of the clause. Patterns of lexicogrammatical patterns realise meanings at the more abstract strata of discourse semantics, which involves meanings beyond clauses and across whole texts. Moving up, is the stratum of the context of situational social activity, theorised as register. A register is a particular set of configurations of language, realised by patterns of discourse semantics patterns, related to the context of situation (Halliday 1989: 44). Finally, at the highest level of abstraction, patterns of register patterns realise genre: the recurrent, goal-oriented

configurations of language which enact social practices (Martin & Rose 2007 (2003), 2008). The layers of stratification are shown in Figure 9, below.

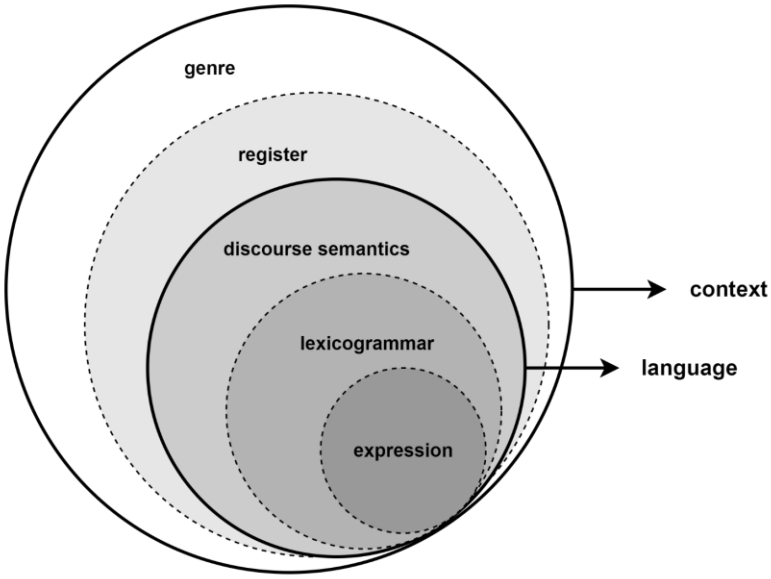


Figure 9. Language strata within context strata, based on (Martin 1992)

Each layer in the SFL model provides a lens for analysis at a different level of abstraction, allowing us to view language 'from below', looking upward from the vantage point of expression; 'from above', looking downwards from context; or 'from within' the strata of content.

Metafunction

The concept of metafunction characterises the spectrum of work that language does. Through language we make three interwoven kinds of meanings: ideational meanings, interpersonal meanings, and textual meanings. Ideational meanings represent reality and experience, and also logical connections which categorise them; interpersonal meanings enact social relationships, including feelings and interactions; textual meanings organise the flows of other meanings in order to form a message within text (Halliday 1985; Halliday and Matthiessen 2004; Eggins 2004). Ideational, interpersonal, and textual meanings vary independently. Language performs all metafunctions at once, and most parts of a clause play more than one role in meaning (Eggins 2004).

Importantly, the metafunctions and strata intersect. At the level of register, ideational meanings relate to field; textual meanings relate to mode, and interpersonal meanings relate to tenor. A

conceptual diagram of the relationship between metafunctionality and stratification central to SFL theorisation is shown below:

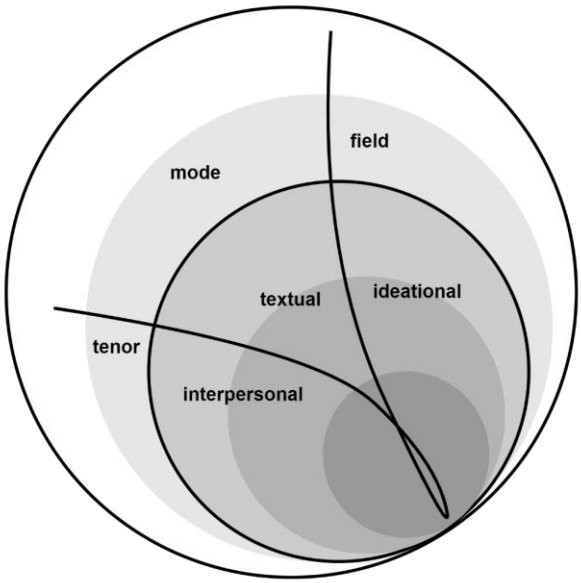


Figure 10. Metafunctions and strata, based on Martin & White 2005: 32

The ideational metafunction is foregrounded in scientific and disciplinary discourse, as language is used in service of building knowledge about particular phenomena. Ideational meaning is linked to the register variable Field, relating to things and happenings: what is going on (Halliday 1985). In specialised domains and technical domains such as science, field involves 'uncommonsense' meanings which construct the specialised and formal knowledge of the discipline. For example, the specialised domain of tennis represents multiple tiers of activity: matches, which involve sets; sets which involves games; games which involve points; points which involve shots; and shots which are classified into additional levels of stroke and hit subtypes (example from Martin 2017: 119–120). These meanings involve elaborated taxonomies across multiple tiers of meanings and are therefore the purview of specialists rather than laypersons.

Scientific fields too are characterised by technical lexes and taxonomies, which are more or less incomprehensible to outsiders. Interpersonal meanings relate to the register variable Tenor and are kinds of meanings which enable exchanges of meanings between members of a community and enact evaluations of phenomena and of research. Though the interpersonal metafunction is backgrounded in science and academia, and not always immediately apparent, interpersonal meanings do work which is central to building discourse and knowledge within

the disciplines. There is a growing focus on articulating exactly what is at stake if aspects of interaction are forfeited by a switch to more written-like texts in academia, raised in Chapter 1. The textual metafunction is also salient in academic texts, allowing language to work coherently, and organising dense and complex meanings in coherent and predictable ways. Textual meanings realise the register variable Mode, concerning the semiotic systems, mediums, and channels through which meanings are made (for example, language versus image, written versus spoken, sonic versus graphic), and the rhetorical role of language in context. In live presentations, the metafunctions operate together across multiple channels and modalities. Speech functions, for example, are not only realised by subject/finite ordering, but also by pitch movement: a falling tone group realises a statement, and a rising tone group realises a question. In fact, pitch movement trumps word ordering: if we phrase it like a question but pitch it like a statement, it is indeed a statement. Written language, images, visual paralanguage (fonts, typefaces, layouts) and spoken language (utterances, intonation and gesture) integrate or coordinate together to create a single cohesive text, construing ideational, interpersonal, and textual meanings verbally and visually. The 'division of semiotic labour' across modalities is strongly connected to register (Mattheissen 2006:25) and also discipline (e.g. Charles & Ventola, 2002; Zappa-Holman, 2007). While the registers of academic texts are well established, modelling the precise co-realisation of meaning across multiple modalities is difficult, as each has different affordances for expressing meanings across the metafunctions, and these shift further with technological change. It is often most useful to characterise the rhetorical relations of correspondence, projection and expansion between modalities (Mann et al. 1992), the commitment of meanings across modalities (Hood, 2008), and focus on salient points at which commitments of meanings from different modalities converge or diverge to create synergies (Painter et al. 2013).

The following sections outline key systems across the metafunctions which are most relevant to the analysis within this thesis: transitivity, which relates to ideational meanings; theme, which relates to textual meanings; and appraisal, which relates to interpersonal meanings.

3.2 Ideational metafunction: Transitivity

A central system within the ideational metafunction is the system of transitivity, which allows speakers to construe what is happening in the real world (Halliday, 2004). Transitivity differentiates clauses depending on the processes and participants, concerning who does what, to whom, and how. The functional components of a clause are: *process*, *participants*, and

circumstances. Processes, the hearts of clauses, are represented by the main verbal group. Participants are represented by nominal groups. Circumstances are any additional pieces of information about time, place, extent, cause, manner, matter, role, and accompaniment (Eggins, 2004:223).

3.2.1 Process types

The process of a clause is its main verb. Processes represent different kinds of doing/being: the physical world, the world of consciousness, and the world of abstract relations (Halliday, 1994). Processes can be delineated into events and relations, and across these categories into six main types: *material, verbal, mental, behavioural, relational,* and *existential*. A three-level process type network is shown below in Figure 13. Process delicacy can be extended much further; for example, mental and projecting process clauses can be divided into projecting and nonprojecting (see Mattheissen, 2014).

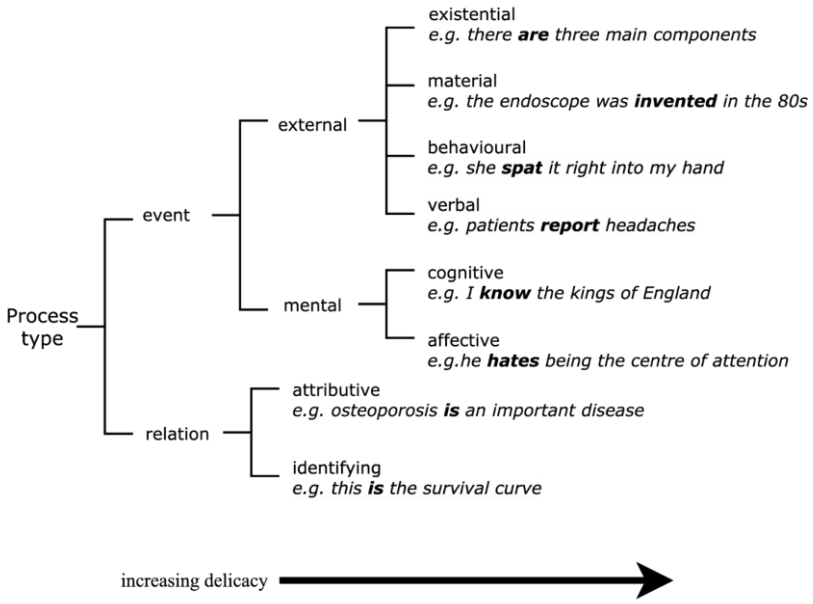


Figure 11. A system network of process types

The categorisation of processes and the borders between these categorisations are not always clear; borderline categories include *behavioural*, overlapping material/mental/verbal, and *meteorological*, overlapping material/existential (e.g. 'it rained', as per Halliday, 2014). Each type of process clause places participants into particular roles. These are shown in Table 4.

Importantly, process types are categorised according to what kind of happening they represent, and one word can be used to represent different kinds of processes depending on context. For

example, ‘play’ can be a material process, in ‘*we’ll play basketball’*, or a relational process, in ‘*osteocytes play a key role in bone formation’*.

Table 4. Processes and Roles, based on Martin et al., 1997; Eggins 2004

Process	**What it is about**	**Participants**
Material	Doing, e.g. *cutting, throwing* Happening, e.g. *moving, jumping*	Actor, Goal, Range, Recipient Actor, Affected
Verbal	Expressing, e.g. *saying, revealing*	Sayer, Reciever, Verbiage
Mental	Perceiving, e.g. *seeing, noticing* Cogitating, e.g. *thinking, wondering,* Emoting, e.g. *loving, fearing* Desiring, e.g. *wanting, needing*	Senser + Phenomenon
Behavioural	Behaving, e.g. *coughing, looking,*	Behaver
Relational	Identifying, e.g. *being, comprising* Possessing, e.g. *having* Attributing, e.g. *being/seeming*	Token+ Value Possessor-Possessed Carrier+ Attribute
Existential	Existing, e.g. *being*	Existent

Many processes involve two or more participants and are characterised as transitive; other processes concern only one participant, and can be characterised as intransitive. Returning to the extract on osteoporosis, the process ‘is’ construes a transitive *relation* between two participants, a Token (more specific) and a Value (more generalised):

Osteoporosis	*is*	*a systemic skeletal disease characterised by low bone mass and microarchitectural deterioration of bone tissue with a consequent increase in bone fragility and susceptibility to fracture*
Token	Process: relational	Value

Here, the relational process construes a *definition* of the phenomenon of osteoporosis, and thus is an *identifying* relational process: the role of ‘osteoporosis’ as a participant in the clause is a Token, and the definition is the Value. Existential processes, in contrast, are inherently intransitive, involving only one participant – the existent:

Comorbidity	*still exists*
Existent	Process: existential

Existential process are frequently expressed in the passive, and require the use of a dummy/empty subject, *there*, which does not have a transitivity role but exists in order to

supply a subject as required by the interpersonal Mood system (Halliday, 2014). The use of an empty participant also relates to textual meaning, addressed in section 3.3.

There	*are*	*a lot of problems*
Empty participant	Process: existential	Existent

Different registers favour the use of different types of processes, as particular texts necessarily discuss different types of happenings. The processes construing research activity differ across context and discipline. For example, laboratory reports within biology construe material processes (*prepare, place*); reports within linguistics construe mental processes (*evaluate, determine*); and experimental reports within psychology construe processes on the boundary of mental and material (*investigate, analyse*) (Gardner,2012:61).

3.2.2 Participants

Participants are the other obligatory component of a clause. While processes construe what it is that is going on, participants construe what *types* of phenomena are represented in texts. By looking at the types of participants represented in texts, we can get a sense of the domain. Fields may range from more everyday, concrete phenomena to more uncommonsense phenomena; participants can be different types of things, or *entities*: people, texts, things, activities, ideas/statements/facts, places, times, and spaces (Hao 2015; Simpson-Smith 2021). Texts from the disciplines will necessarily concern different types of entities as participants which characterise the objects of study within that discipline. Texts may be concerned with entities in the physical world – chemicals, animals, biological structures – and/or more abstract entities – numbers, psychological structures, and semiotic entities such as theories. In our Lancet extract, *osteoporosis* represents a type of physical sequence – bone structures deteriorating, and bone mass consequently lowering – and can therefore be described as an entity that is an activity: an *activity* entity.

Analysis of the roles of participants in transitivity can be used to examine discursive constructions of power and agency. In a text or collection of texts, classes of entity tend to be associated with certain types of processes, and construed as either more or less agentive. Goatly (2002) demonstrates that natural entities are predominantly represented as goals, ranges, and circumstances, and thus as passive and powerless, reflecting an underlying anthropocentric

ideology. Indeed, SFL has long been used as a basis for critical discourse analysis, e.g. Fairclough (1989).

In academic texts, transitivity analysis can similarly be used as a lens for examining authorial presence in texts. The use of personal pronouns as a projection of the author's identity has been extensively studied (e.g. Ivanič,1998; Harwood,2005, Le 2009). Tang and John (1999) offer a cline of authorial presence construed through transitive patterns involving explicit I/we: a weak authorial presence is created through I/we as metaphor for a group, and in clauses where the current document qua document is a Goal, Range or circumstance; moderate authorial presence is created through I/we as an Actor or other agent of research activity; strong authorial presence is created through I/we as Senser; and strongest presence is created with I/we as Sayer of results or knowledge claims (1999:27-29). This study was based on English discipline student essays; subsequent studies have extended and refined the cline for other contexts (Zareva, 2013, Nausa 2020). In the science disciplines, authorial presence in written texts is typically implicit, rather than explicit, obscured by nominalisation, short passives, and depersonalised language, with the 'presence' of the author construed in other ways. However, explicit use of I/we in spoken scientific language is well-documented (Biber et al. 2002; Biber 2006; Rowley-Jolivet & Carter-Thomas 2008; Le 2008), making an authorial cline a potentially useful tool for research presentations.

3.2.3 Multimodal transitivity and ideation

In multimodal texts, ideational meanings can be construed or co-construed verbally, visually and gesturally, with key meanings reconstrued across modes. In presentations, the three modalities are inextricably integrated. Images contribute richness and additional levels of depth or precision, while gesture supplements verbal meanings, giving clarity and emphasis, and completing segments of meaning.

Images such as figures, tables, equations and photographs are central in scientific texts and presentations. Visual analogues to transitivity and ideational meanings and have been identified. Clause participants can be construed through direct depictions, with vectors between components of an image construing transitivity (Kress and van Leeuwen, 1996/2006); logical meanings such as 'then' or 'becomes' are depicted through arrows (Martin and Rose, 2008; Hood, 2017). Conventions exist for the visual expression of many kinds of ideational meanings. For example, the concept of degree is visually represented as vertical space that can be higher

or lower (Mattheissen, 2006). The spatial orientation of images too contributes to meaning. Left-right orientation, sometimes across multiple screens, tends to correspond to logical relationships: general-specific, instrument-result, claim-evidence, problem-solution, high iconicity-low iconicity, first-second, and so on (Rowley-Jolivet, 2002:32) in coordination with co-occurring verbiage, in which meanings are constructed across multiple modalities. For example, an image can act as a circumstance, showing a setting in time or place; or can intensively identify co-occurring linguistic meanings, adding extra information about a participant, such as colour (Unsworth & Cléirigh, 2009).

Spoken ideational meanings are co-expressed through gesture. Work by Martinec (2000, 2004) and others has shown that the gesture that accompanies speech is hierarchically structured, realising participants, processes and circumstances which in turn form a clause-level units of meaning. A range of process types can be expressed through iconising or emblematic representations which mime entities and actions; these can be more literal or more metaphorical. Gesture allows repetition and emphasis of key ideational meanings across modes, thus also contributing to the textual metafunction. Academic presenters may 'sculpt' an entity through gesture in order to bolster explanation. In densely technical spoken texts, the embodied construal of ideational meanings is also an important complement to the more highly abstract verbal meanings (Hood & Hao 2021).

Understandings of gesture and its variability are still developing. Variability and frequency of gestures index enthusiasm, spontaneity, and social dominance (Martinec 2004:211).Differences in the uses and repertoires of gesture across culture have been observed; indeed, learning which gestures to use and which to avoid is part of intercultural competence (Molinsky et al, 2005). Gesture has been shown to reflect cultural epistemologies. For example, Gu et al (2029) show that Mandarin speakers perform gestures which align with conceptualisation of the future as 'behind' and the past as 'in front', in contrast to English speakers from Western cultures who see the inverse, and who favour a horizontal plane for conceptualising time. The exuberance and frequency of gestures are also known to relate to culture (e.g. Iverson et al, 2008). However, while there are individual and cultural variations in gesture, and differences in preferences for intensity and frequency of gesture, there do seem to be some consistent underpinning systems. Fingers, hands and arms/forearms form three distinct levels of gesture, corresponding to particular options which realise particular types of meanings. For example, circumstances of location tend to be realised by finger extension, and

participants by finger bending; states of being tend to be realised by forearms stiffly held (Martinec 2004:197-201).

3.2.4 Field: density and specialisation

Ideational meanings are foregrounded in academic writing, and tend to be densely packed. Written and spoken texts tend to differ in the density and specialisation of ideational content. Two measures provide window into the 'written-ness' of a text: lexical density, and lexical sophistication. Lexical density is, broadly, the proportion of lexical words ('content words') to total words (Ure 1971). Spoken texts, which tend to necessarily involve more 'functional' words, typically score below .4, for example //*it is not on the **people**/ but for the **people**//* scores .2; written texts, which can pack in more ideational meanings, typically score over .4, for example '***Osteoporosis** is a **systemic skeletal disease characterised** by **low bone mass** and **microarchitectural deterioration** of **bone tissue**, with a **consequent increase** in **bone fragility** and **susceptibility** to **fracture'*** scores .64 (Ure 1971). Halliday (1985: 67) refined the definition of lexical density as the proportion of lexical items to ranked clauses within a text. This method shows how much lexical meaning is packed in to each ranking clause (see section 3.5 for an explanation of rank), and is more sensitive to register. Spoken texts, which tend to involve short 'exchanges', typically score 2 or lower–for example //*it is not on the **people**/ but for the **people**//* now scores .22–and written texts, which can involve heavily embedded clauses, around 5 or 6–the Lancet extract now scores 6 (Halliday 1985). In spoken-to-be-written texts, such as academic presentations, we might expect a range of densities, which shift across different sections of the presentation.

The degree of specialisation of a text can be indicated bluntly by its Lexical Sophistication value, which refers the proportion of frequent versus infrequent (i.e. academic and specialised words) in a text. The lexical items within a text can be divided into four word categories: K1 (very common); K2 (common); K3-6 (uncommon); and K7+ (very uncommon) plus words so specialised and uncommon that they are considered 'offlist'. Spoken and more interactive language will tend to have a lower proportion of uncommon, specialised lexical items, and a higher proportion of common items. For the previous examples, //*it is not on the **people**/ but for the **people**//* is 95% comprised of K4 or lower words; the Lancet extract extends the 95% range to K9 and includes an offlist word, microarchitectural (as per Cobb, 1997). Lexical Sophistication is often used as a measure of text 'difficulty', in terms of production and

readibility. In the context of highly specialised research presenting in the disciplines, this value, much like lexical density, can be used as an indicator of writerliness.

3.3 Textual metafunction: Theme

Systems within the textual metafunction organise ideational and interpersonal meanings, allowing speakers to control the flow of meaning as a text unfolds. At the level of register, the textual metafunction relates to Mode. The major systems within the textual metafunction are Periodicity and Negotiation (Halliday 1994; Halliday & Matthiessen 2013); Theme is a major subsystem within Periodicity.

The Theme of a clause represents the 'point of departure' for a message (Halliday 1994:37). In English, Theme comprises everything up until the first ideational element of a clause, that is a Participant, or a Circumstance; everything after this point is the Rheme. For example, in the Lancet extract, the initial, thematic information is *Osteoporosis,* and all that follows is the rheme:

Osteoporosis	*is a systemic skeletal disease characterised by low bone mass and microarchitectural deterioration of bone tissue, with a consequent increase in bone fragility and susceptibility to fracture.*
Theme	Rheme

The placement of *osteoporosis* in the Theme position and definition as Rheme means that the clause is 'about' osteoporosis, while the information contained in the Rheme is further information, in this case about the description of its nature.

Theme plays a role in the periodic structuring of a text, as part of the larger system of Periodicity (Martin & Rose, 2003; 2007), in which waves of Themes and News organise the progression of meaning. Theme/Rheme and Given/New are interrelated but distinct concepts (Halliday 1994). Typically, information in the Theme represents what is given, or already familiar to the audience, and the Rheme provides 'new' information which develops field.

In English, it is mechanically trivial to manipulate the ordering of Theme/Rheme through the selection of either passive or active processes. In some instances, this requires the use dummy or empty participants, for example as in existential process clauses, which functions to place information in the New position rather than the Theme position:

There	*are*	*a lot of problems*
Empty participant	Process: existential	Existent
Theme	New information	

Presentations offer additional channels for Theme. Images tend to represent New information (Miller, 998 in Rowley-Jolivet 2002). Given-New can also be construed by Left-Right orientation (Kress & van Leeuwen 2006), and by temporal ordering: Given information may be given on a slide, with New then 'appearing'. In speech, intonation signals New through tonic prominence in a tone group (Halliday & Greaves 2008: 103). For example, when the existential process clause '*there are a lot of problems'* is spoken aloud, word stress in the Rheme affects the New focus of the clause, even though the wording of the clause otherwise remains the same:

// *there* ***are*** *a lot of problems*	= counter-expectant emphatic is, asserting of the existence of the problems
// *there are a* ***lot*** *of problems*	= emphasising the large number of problems
// *there are a lot of* ***problems***	= drawing attention to negative aspects of topic

Intonation can also synchronise with gestural beating, which strengthens emphasis on salient information such as New (Kendon 2004; Zappavigna et al. 2011; Hood 2010b; Hood & Hao 2021:228–29).

Theme and New contribute to the flows of meaning not only at the level of clauses, but in higher-level hierarchies of organisation occurring across texts. In highly literate texts, language tends to be highly organised. Clear academic texts prepare the reader by explicitly foreshadowing meanings, and then consolidating those meanings. This is often aphorised as '*tell them what you're going to tell them; tell them; then tell them what you've told them'*, as seen previously in Figure 4. Headings and introductions set up expectations for the text, functioning as 'macroThemes', and rhetorical paragraphs initiate with topic sentences, or 'hyperThemes'. Thus, where Theme is the point of departure of a clause, hyperTheme the point of departure for a rhetorical paragraph, and macroTheme the point of departure for larger sections or entire texts. In rhythm with hierarchies of Theme, New information accumulates across texts over waves: clausal News, paragraph hyperNews, and larger macroNews. If the progression of hierarchies of Themes and News is consistent and predictable, the text is much easier to read.

3.3.1 Theme type

Clausal Theme can be simple, or multiple. Theme comprised of ideational components alone is known as simple or 'topical' theme. If there are any interpersonal or textual components before the ideational component, the theme is multiple, and can be further categorised according to whether there are textual and/or interpersonal components. The empty participant in existential clauses is considered to constitute topical theme (Eggins 2004). Some clause Moods always involve multiple Theme, such as questions, vocatives, and expletives, which all involve interpersonal Theme components. Different Theme types are summarised below in Table 5.

Table 5. Theme types, with examples

Theme type	**Component**	**Example**
Topical	Participant Circumstance	*Chronic Rhinosinusitis is an important disease (Text A)* *Since the 1980s, functional surgery has been the routine standard (Text A)*
+Interpersonal	WH-question words Modal/comment adjuncts Vocatives, expletives Modal auxillaies Interpersonal metaphor	*What is bone resorption? (Text B)* *Of course, this can have impacts on treatment outcomes* *Susan I understand that I'm supposed to…* *Does it just work? (*Text A) *I think that…* *I would also like to bring you to understanding that…*
+Textual	Conjunctions Conjunctive adjuncts WH-relatives Continuatives	*But 70% of patients are doing it for a second time (*Text A) *However, functional surgery is not the only option (*Text A) *Which was the main reason for that. (Text E)* *Umm so the main thing I wanted to highlight was this factor, here (Text D)*
+Interpersonal +Textual	[Combination]	*Oh, shit, sorry (*Text B)

Theme type usage across author variables has been extensively studied. Novice writers using English as an additional language tend to over-use textual and interpersonal themes, including common misuse of 'however', 'moreover' and 'besides', causing incoherence and the enactment of inappropriate register (Arunsirot, 2013; Green et al. 2000; Wei 2016). It has also been noted that certain domains hold particular preferences for theme type, for example 'orienting' Themes in the discipline of history (Stainton, 1996, North, 2005).

3.3.2 Theme Progression

The relationship of Themes across a series of clauses is described as Thematic progression. The progression of Theme organises flows of information, connecting segments of discourse, thereby creating coherence and continuity (Martin and Rose, 2003). Predictable patterns contribute towards the readability of long and complex texts. Three common Theme progression patterns in academic writing are:

- parallel progression, also known as 'constant' or 'reiterative' progression (Daneš 1974; Eggins 2004), in which the same Theme is repeated across multiple clauses;
- linear progression, in which the Rheme of one clause becomes the Theme of the next; and
- split or derived progression, in which several parts of an initial Theme or Rheme are picked up as later Themes.

The Theme/Rheme components that are picked up in subsequent clauses need not be identical; for example, the clause pair '*Cats are cute. Kittens are even better'* represents parallel theme.

Theme progression can relate to the purpose of the text. Short position papers often use split progression, in which the first sentence of a paragraph includes a number of Rheme elements which are then each picked up across the paragraph in sequence; sequential explanations often involve linear theme, as A leads to B, B leads to C, and C leads to D. Highly-rated written texts tend to use mixtures of theme progression types. Lower-rated student texts often involve choices of theme which lead to underdevelopment of a text (Wang 2010) or difficulties for the readers of some other kind (Hewings 2004; Green et al. 2000). Themes that appear suddenly out of nowhere, or the picking up of Themes as Rhemes in subsequent clauses, are particularly damaging to text cohesion, interrupting the steady flow of information.

3.3.3 Theme across modalities

In live presentations, Theme, Theme progression, and Theme hierarchies operate across multiple modalities and channels. Slides are a key contributor to textual meanings, providing often explicit organisation. Slide text often offers higher-level Themes and consolidates information into higher-level News. Most broadly, the topic of the presentation exhibited on the title slide typically represents a macroTheme which sets the audience's expectation for the

presentation content; a summarising slide showing the 'take home message' of the presentation offers the macroNew. Information hierarchy is visually codified with a top-down orientation, frequently as bars running across the tops of slides delineate section label – hyperTheme or even macroTheme – from its contents. Colour may also be used to distinguish sections or hierarchies.

Spoken Themes tend to involve interpersonal and textual elements, which orient readers to the author's stance and to the structuring of longer turns. In presentations, spoken Theme can comprise references which identify entities shown on slides: '***This*** *is a neutrophil*; '***This*** *is a survival curve'*; '***This*** *is the R_eff estimate in New South Wales as of December 10th here shown in log scale* '.

Blunden (2017) demonstrates that 'exophoric Theme' is a powerful resource in multimodal museum texts, where the role of verbal text accompanying painting exhibits is to compel viewers towards important parts of the painting in order to extend the viewer's engagement with the piece. Written text such as '*The white lillies symbolise purity and the Annunciation'* implies the imperative: *'[Look at] the white lillies [which] symbolise purity and the Annunciation'* (Blunden 2017). Slides and speech in presentations can have a comparable relationship. In presentations, Theme which refers to slides – though more endophoric than exophoric – especially when combined with deictic gesture, has a similarly powerful imperative effect, inviting the audience to attend to a particular slide component. Images in slides can also be considered in and of themselves. The textual metafunctions of images varies from that of linguistic systems: language, intonation and gesture are experienced as unfolding chains of meaning, with some element necessarily occupying the initial and final positions, whereas images are perceived all at once. The most salient part of an image is that which will be 'read' first, and therefore the concept of salience can be considered analogous to Theme (Kress and van Leeuwen, 2006:202). Salience is realised by size and placement of components, for example in the centre or foreground; contrast, and use of culturally significant components such as faces (Kress and van Leeuwen 2006).

3.3.4 Order and action

The selection of clause Theme influences discourse semantics beyond coherence alone. A concrete, contextualised Theme accompanied by an abstract and decontextualised Rheme creates a particular effect. For example, we can take a relational clause from Text C:

staphyloxanthin is the pigment that neutralises the superoxide, and flip the Theme/Rheme structure, as per Table 6:

Table 6. Flipping Theme/Rheme

Original text	*staphyloxanthin*	*is*	*the pigment that neutralises the superoxide*
	Theme:	Rheme	
	Token	Relation	Value

Altered text	*the pigment that neutralises the superoxide*	*is*	*staphyloxanthin*
	Theme:	Rheme	
	Value	Relation	Token

In both versions, the clause participant roles (Token/Value) and logical meaning of the relational identifying process (X=Y) are the same. However, the version with the Token as Theme is *explaining* a phenomenon, whereas the version with the Value as Theme is *naming* a phenomenon; one version decodes, unpacking a decontextualised technical term into more concrete meanings, while the other encodes, packing up information into a technical term (Hao 2015). Unpacking, and the movement between contextualised concrete language and decontextualised abstract language is fundamental to learning and knowledge-building (Painter, 2005; Young & Nguyen 2002; Maton 2013); unpacking can occur over more than one pair of clauses, and presenters may be able to customise the depth of chains of unpacking to suit the audience in the room. The textual metafunction thus interacts with other metafunctions to engender social activity.

3.4 Interpersonal metafunction: Appraisal

All language expresses feelings. Although scientific language is very depersonalised, and although ideational meanings are certainly foregrounded, the interpersonal metafunction operates, with interpersonal meanings entwined with ideational and textual. Clear scientific texts do not simply list information, but also comprehensively filter it by indicating to the reader their evaluation, indicating whether entities (people, objects, processes and concepts) are important, peripheral, dysfunctional, unfortunate, dangerous, interesting, risky, well established, contentious, likely, hypothetical, incomplete, etc. Returning to the Lancet extract, though highly technical and formal, without any emotive content, there is a clear negative slant. How we should feel about osteoporosis is revealed through the subtle negativity of words such

as *deterioration, fragility,* and *susceptibility*. Even though we might not know what *microarchitectural deterioration* is, we can sense that it is undesirable, as 'deterioration' implies some kind of loss of function.

Within SFL, resources for evaluation are described through the Appraisal system (Martin 2000; Martin & White 2005). Appraisal resources enable speakers to enact feelings about people, things, and propositions (Martin 2000:145). Appraisal formalises the paradigmatic relations available to speakers for enacting evaluation along three subsystems:

- Engagement, resources for the management of voices within a text
- Attitude, resources for expressing emotion and evaluation
- Graduation, resources for the scaling of attitude and engagement.

Within a single text, the systems of Attitude, Graduation, and Engagement interact, along with choices from other systems, working together to persuade (Humphrey & Economou, 2015:46–47). These systems are not bound to particular word classes or structures: each can be realised by a range of lexicogrammatical features, and one particular word can realise multiple aspects of evaluation. 'Perhaps', for example, can both soften the focus of an evaluation and can increase space for other voices in a text. Multimodality further expands – and restrains – the possible realisations of Appraisal resources available to speakers, as images and paralanguage interact with the linguistic deployment of appraisal, creating synergies. In spoken texts, intonation and gesture are significant component of interpersonal meaning-making, strengthening and even supplanting verbal meanings. Gesture can also signal stance before it is articulated verbally, priming the audience (Hood and Forey, 2005:302). A description of each subsystem of the broad Appraisal system follows.

3.4.1 Engagement

Engagement is the system for managing points of view. This includes both the projection of authorial voice, alternative voices, and the reader, and the construal of propositions as either more reliable/taken-for-granted or more contentious (Martin & White 2005:126). All language is dialogic. In research texts, authors must represent the ideas of others, integrating their own position into the disciplinary 'conversation'. The engagement system distinguishes *monogloss* from *heterogloss* (White 2004:9). Monogloss are 'single-voiced' formulations which do not leave room for alternative positions, presenting propositions as uncontroversial and factual. For example, '*Vitamin D enhances innate immunity'* is monogloss, a bare assertion

with no overt modality, scaling or polarity: it is presented as established medical knowledge. Heterogloss, in contrast, are 'multivoiced', allowing for the existence of other positions in some way. The (original) formulation '*New research suggests that Vitamin D enhances innate immunity (Figure 3) [73]'* (from Wolff et al., 2008) is a heteroglossic formulation which acknowledges the existence of other voices (*new research, [73]*), and considers it persuasive (*suggests*).

Citation is inherently heteroglossic. Citation is a key feature of academic texts; on average, scientific articles include 7 to 15 citations per thousand words (Hyland, 1999). Previous work on citation has investigated constructions according to the type of reporting verb (i.e. process-showing): for example, '*Mickan (2013) revealed…*', versus saying, e.g. '*Mickan (2013) argues…*', or versus thinking, e.g. *'Mickan (2013) believes…*' or doing, e.g. '*Mickan (2013) analysed…*' — in terms of the type and choice of clause process indicating a particular level of agreement with the cited information, and in terms of differences in preferences for verbs and verb types across disciplines (Francis et al. 1996; Hyland 1999; Yang 2013).

However, heterogloss is much broader than citation and reporting verbs. Most citation in scientific texts is non-integral, often excluding reporting verbs, and some citation is altogether implicit. For example, the following example from (Martin & Rose 2008) contains no overt citation, yet still clearly demonstrates heterogloss: *'The volume fraction of pearlite is evidently important in controlling the wear of annealled carbon steels...'* (:210). The reference to other research is implicit: the term 'evidently' indicates that the provenance of the concept is an external voice, and also that the author's stance towards it is favourable. Explicit citation and its subtypes (integral/nonintegral, process clause type) are thus treated as types of realisations within the broader Engagement system, which also encompasses less direct/explicit realisations. The Engagement model is therefore particularly useful in understanding multimodal texts such as presentations, where space for other voices can be construed subtly and across modalitites.

Types of Heterogloss

The Appraisal framework categorises heteroglossic formulations according to whether the space for alternative viewpoints is limited or opened up by the utterance Dialogic contraction includes disclaiming, where authors invoke and immediately reject an alternative position through *deny*, negation, or *counter*, concession or counter-expectation (Martin & White,

2005:95); these frequently function in the introductions of academic journal articles to signal the research gap. Dialogic contraction also includes proclaiming, where authors construe a proposition as particularly warrantable (:97): *endorse*, presenting the position as credible; *concur*, construing the position as shared; *pronounce*, emphasising the position as credible; and, as Geng and Wharton (2019) propose, *justify* through referrals to evidence. Dialogic expansion, on the other hand, opens up space, allowing other voices room in the discourse: *entertain*, posing a proposition without committing to it completely; *acknowledge*, referring to a position without indicating any opinion about it; or *distance*, disaligning from a position. Examples are shown below.

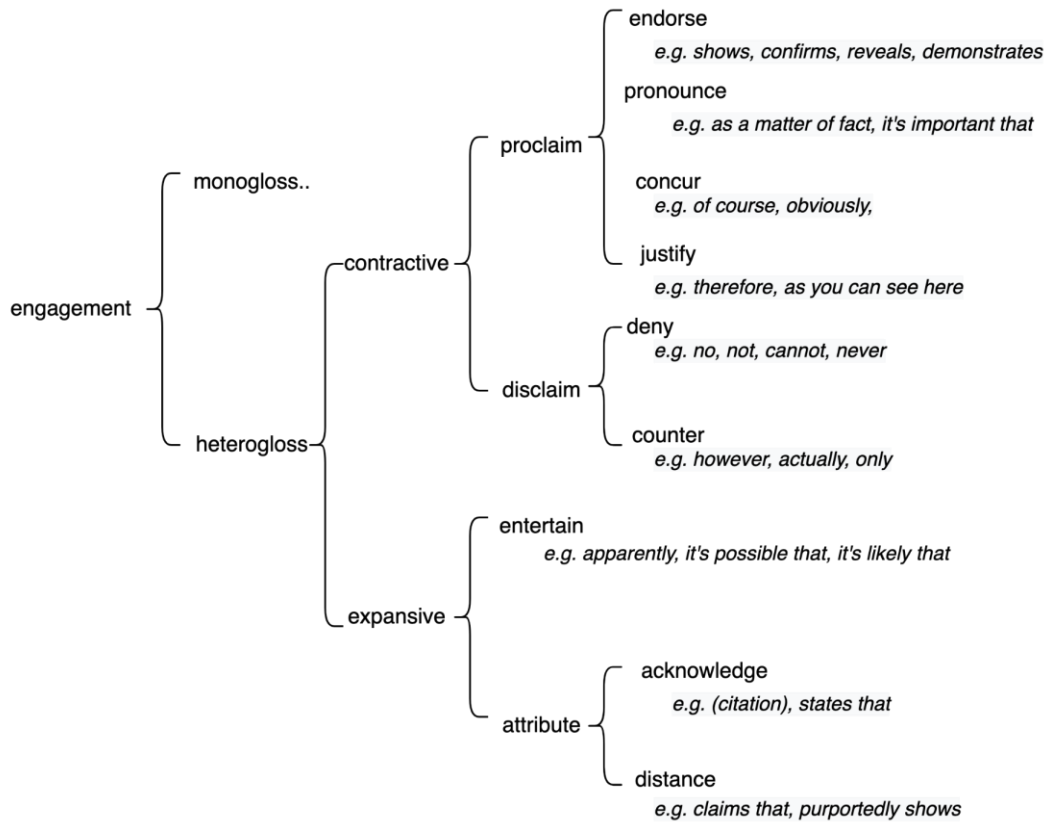


Figure 12. Heterogloss subtypes (based on Martin & White, 2005; Geng & Wharton 2019)

Engagement in academic texts

In academic writing, the deployment of engagement resources contributes significantly to the persuasiveness of a text. Disciplinarity impacts patterns of engagement; for example, fields associated with qualitative methodologies such as enthnography where the author is recognised

as a variable require explicit self-reference and very clear delineation of voices, particularly between that of the author and those of study participants, and previous studies have shown disciplinary preferences for citation type (Hyland 1999; Thompson & Tribble 2001). In a study of graduate student presentations, Zappa-Hollman (2007) found a preference for 'openness' and dialogism in the humanities and social sciences, contrasting with a preference for certainty and succinctness, that is a favouring of dialogic contraction, in the sciences.

There are also cultural influences on the deployment of Engagement resources. Iranian defense presenters thank, compliment, and hedge, reflecting cultural norms for humility and hospitality (Don and Izadi 2011, in Lau et al 2020). Reikkinen (2010) found that EFL and native speaker defence presenters used different lexical hedging strategies. EFL presenter hedging was dominated by 'I think', whereas native speakers favoured a broader distribution of hedges, most commonly 'just' (2010, p.81). A recent analysis of a dissertation defense event Lau et al (2020) found that Taiwanese and Japanese EFL students favoured Entertain resources, whereas heavily Western-exposed EFL speakers favoured contractive resources and a higher degree of engagement overall. This was speculated to reflect a broad cultural preference for politeness, and for individualism, respectively.

Overall, regardless of discipline, it is well established that highly-rated and expert writing tends to use a larger variety and frequency of engagement resources than novice writing (Coffin & Hewings 2004; Petrić, 2007; Lee 2010; Swales 2010; Geng 2012; Liu & McCabe 2018; Liardet & Black 2019). It has been shown that highly valued novice writing successfully enacts a more evaluative stance, explicitly indicating the position of the writer in relation to external voices/sources, while poorly-rated texts over-rely on 'neutral' acknowledging formulations (Lancaster 2014; Liardet & Black 2019). Specific patterns of mono- and heterogloss are also important to the effectiveness of texts; highly-rated written texts have been shown to deploy monogloss and dialogic contraction in hyperThemes, followed by dialogic expansion in the rest of the paragraph (Lee, 2019). Slide headings, which enact periodicity, tend to be monoglossic.

Interestingly, it has been shown that researchers tend to increase their use of heterogloss in the service of knowledge production rather than of knowledge reproduction. Writers increasingly favour heterogloss and expansive formulations as they move from writing a thesis to writing journal articles (Kawase 2015); grant proposals are particularly dialogically expansive (Pascual & Unger 2010). As Pascual and Unger point out, this trend perhaps reflects an occupational

need to be dialogically inclusive in one's professional domain, and to avoid risking burning bridges. Meta-knowledge of engagement resources has been shown to significantly improve student writing (Chang & Schleppegrell 2011), and is likely similarly valuable for commencing doctoral students.

As mentioned, it has been found that presenters minimise discussion of other literature in the field (Weissberg, 1993; Rowley-Jolivet & Carter-Thomas, 2008); any references to shared disciplinary knowledge in presentations tend to be given in very broad terms (200:56), for example:

- '*Many different techniques are known to sustain internal mode disequilibrium high pressure gases…'*
- *'This is based on some work the Japanese did in the 1980s…'*

It is speculated that this very generalised type of citation is connected to the need to maintain focus on the presenters' own work within the limited timeframe of presenting.

3.4.2 Engagement across modalities

In a live presentation, the available engagement resources are radically different to those in text. Engagement is realised multimodally, through language, image, and paralanguage, and these systems work closely together. The multimode determines some linguistic conventions realising engagement, for example citation appearing on slides rather than in speech with the rest of the parallel written text. The register of a live presentation also influences choices of engagement resources; personal pronouns (I/we) which make author presence more explicit are much more frequent in academic presentations (Rowley-Jolivet & Carter-Thompson, 2006) and may affect engagement realisation. An Appraisal analysis of masters' oral defences (Lau et al, 2020) examined the use of engagement resources to establish identity and rapport. The authors find that a two-pronged personae is construed through the deployment of Entertain and Proclaim resources: 'a humble learner who is open to criticisms and suggestions' who is simultaneously 'an emerging scholar who defends their own ideas'. Lau et al (2020) also analysed the comments of examiners, finding that these participants used a combination of Disclaim with Entertain resources to soften demands for information.

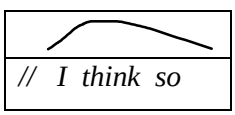
Images

Dialogism and tenor has been approached from a number of perspectives. Work on the visual semiosis of interpersonal meanings has examined the enactment of aspects of Tenor as realised through frame size, angle, colour saturation, image focus, light exposure, and so on (Kress & van Leeuwen 2006). The use of cartoons, for example, serves an interpersonal function in terms of reducing social distance and thus aligning the audience and speaker (Rowley-Jolivet, 2002).

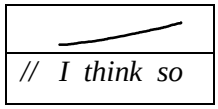
Dialogism is invoked both in images themselves and by the provenance of those images. As in verbal text, monoglossic images can be broadly characterised as those which do not inscribe or invoke other voices, and heteroglossic are those which do mediate representation or indicate mediation of representation in some way (Economou 2009). In academic presentations, it is common to use externally sourced images, which can be recognised by disciplinary insiders as such even without explicit citation. Where externally sourced images are used matter-of-factly in conjunction with verbal discourse, this can be interpreted as the dialogically contractive resource *Endorse*. Images generated by the author may indicate varying degrees of heterogloss. Different types of scientific images represent a range mediation or constructedness, from 'naturalistic', less mediated images such as uncropped photographs or micrographs, which can be more open to interpretation, and are thus can be dialogically expansive, to highly constructed images such as graphs and tables, which carry more precise, 'monosemic' meaning (Bertin 1973, in Rowley-Jolivet 2002), and are thus more dialogically contractive. Importantly, of course, images are rarely displayed without commentary: dialogism will be contracted or expanded through verbal interpretation of a displayed image (e.g. '*here* [pointing] *we have eosinophilic infiltration'*).

Intonation

Intonation realises a speaker's degree of alignment with a proposition, overriding syntax, and thus represents an important resource for engagement (Halliday and Matthiessen, 2004; Halliday and Greaves 2008: 50). Intonation can express dialogic contraction, through a rise-falling tone which enacts a committed key indicating alignment with the utterance:



Intonation can also express dialogic contraction, through a level rising tone which enacts indecision or noncommittment, indicating room for other voices and possibilities:



Intonation can also effect meanings in stretches of discourse longer than clauses. In a presentation, a speaker can deliver a series of utterances in one paratone, and then 'interrupt themselves' to interject parenthetical commentary which breaks the fourth wall of the presentation to construe direct interaction with the audience (Goffman 1981:177–181), thereby enacting the highest possible level of alignment with a formulation.

Gesture and body language

Body language is significant as an engagement resource. Gesture expresses dialogic expansion and contraction through 'open' or 'closed' postures: heteroglossic expansion can be realised through open body positions, such as where a speaker holds their palms up, visible to the audience; contraction can be realised through prone body positions, such as where a speaker holds their palms down, hidden from the audience (Hood 2010b). Unbalanced posture and oscillating gestures too indicate dialogic expansion, representing the notion of uncertainty/possibility (Hood, 2010b). Exuberant gestures which imply spontenaeity (Martinec 2004) necessarily imply a high degreee of commitment to a proposition.

Resources for disalignment with propositions or sources are particularly rich in spontaneous texts relative to planned texts; speakers may be more likely to distance themselves from other work in situations which are more nuanced in terms of interpersonal meanings, and where comments are more off-the-record. Speakers can reject or distance themselves from propositions through a number of mechanisms, including via air quotes, negatively charged facial expressions, and negation via head shaking. Emphatic, dramatic gestures of rejection also occur: Tanno (2019) describes a strategy of disregard deployed in the domain of marketing pitches, wherein presenters point blindly and imprecisely towards the visual representation of a rival entity on a slide, and then metaphorically dismiss the entity with a broad sweeping gesture. Marketing pitches represent an openly persuasive and emotive text type, so this kind of realisation of engagement is perhaps likely to be more explicit than in academic contexts.

3.4.3 Attitude

Attitude is the system for negotiating emotion, ethics, and aesthetics, encoding positive or negative values (Martin & White 2005:2). The components of Attitude include the appraisal itself, its charge (+/-), the target of the appraisal, and the source of the appraisal. In the clause *'The analysis is **lacklustre'***, the appraisal is *lacklustre*; the charge is *negative*, the target is *the analysis*, and the appraiser is the elipsed author.

Attitude is often realised as epithets, but can also be realised in processes, things, or circumstances: e.g. patient **anger** boiled over at the delay; patients made **angry** complaints; patients complained **angrily** about the delay.

The target of Attitude determines its categorisation as either *Affect*, *Judgement*, or *Appreciation*.

- Affect concerns emotions, for example '*doctors were **concerned** about the lack of clarity'*.
- Judgement concerns evaluations of the ethics and character of individuals or social groups, for example '*nurses are very **helpful'***.
- Appreciation concerns evaluations of objects or phenomena, including texts, processes, ideas, and other abstract entities, for example '*the overtreatment of low-risk patients incurs significant **costs***'.

Scientific and academic language predominantly deploys Appreciation, as these fields concern the analysis of objects and systems (Hood 2004; Lee 2006; Hao & Hood 2019). In academic texts, Affect tends only to appear in ways which preserve objectivity, for example by attributing Affect to a generalised group of professionals (Bednarek 2008:131), e.g., 'clinicians have expressed concern that x' rather than 'it is concerning that x'. As established by Suzanne Eggins, humour is not a realisation of Affect (e.g. happiness), but indication of a small misalignment or 'wrinkle' in meaning which is acknowledged and resolved through laughter (Eggins, in Martin & White, 2005). In spoken scientific discourse, while Appreciation is the preferred type of attitude (Hao & Hood, 2019:204), there is some room for Affect and Judgement. Hood and Forey (2005) show for example that ironic self-depreciation, co-articulated through language and paralanguage, constitutes a particular interpersonal function within conference presentations which engenders group bonding.

Appreciation

Appreciation is further delineated into three subsystems of *Reaction, Composition*, and *Valuation*. Reaction evaluates phenomena in terms of the emotion that it provokes, for example 'an ***interesting*** *aspect of the problem is...'.* Composition evaluates how something is ordered or composed, for example, '*Material was* ***well organised***'. Valuation evaluates social significance, or how worthwhile something is. For example, '*osteoclasts have an* ***important*** *function within the bone resorption process*'. Reaction, Composition, and Valuation can be understood in terms of the metafunctions: Reaction relates to the interpersonal metafunction; Composition to the textual; and Valuation to the Ideational.

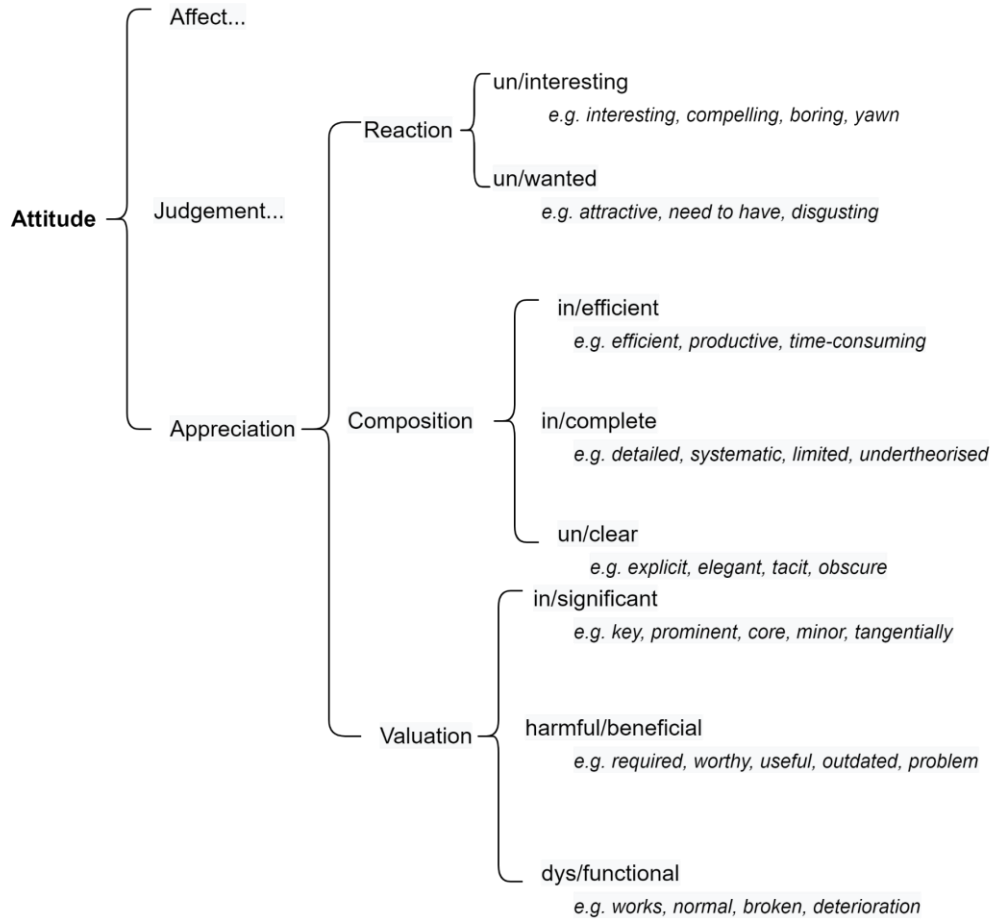


Figure 13. Attitude and Appreciation subtypes (based on Martin & White, 2005)

Valuation is unique across domains, as it is highly sensitive to field (White 1998:56). A number of +/- sets of Valuation subtypes have been proposed, depending on the domain of the

language. For example, Valuation subtypes of *salience, authenticity*, and *harm* have been identified in media texts; and *compliance*, *functionality*, and *harm* in engineering reports (White 1998; Simpson-Smith 2021). In academic contexts, Valuation is influenced by discipline. Subtypes of *salience*, *sociality*, *validity*, and *maintenance* have been identified in student social sciences essays (Lee, 2007, 2014); *risk*, *cost*, and *opportunity* in student business reports (Szenes 2017); and *significance*, *specificity*, *functionality*, and *rationality* in health science lectures (Hao & Hood 2019). Valuation is not simply a technical linguistic category, but a reflection of what is valued within a particular domain. In this sense, examinations of attitude and specifically of patterns of Valuation are able to provide insight into the epistemologies underpinning a particular discipline. Health sciences as a field is particularly concerned with dsy/functionality of biological systems: disease, disorder, injury, ageing, etc., and the mechanisms involved.

In live presentations, paralinguistic meanings can work to express and reinforce attitude, strengthening the transmission of disciplinary values and the apprenticeship of novices. Hao and Hood (2019) show how paralanguage such as gestural beating on particular words amplifies meanings, graduating them, and thus enacting Valuation which runs in complementary parallel to verbally expressed Valuation. This is a form of invoked evaluation, which is discussed further below.

3.4.4 Invoked evaluation

Evaluation can be invoked, or implicitly realised, as well as inscribed. The ability to invoke Attitude is an important part of the mastery of 'objective' discourse, allowing evaluation while maintaining an appropriately 'distant' and depersonalised tenor (Lee 2014), and is key to construing authorial values, stance, and positioning (Don 2016:3). Attitude can be invoked through many mechanisms, and can overlap with the systems of Engagement (White 2012) and Graduation (Hood 2006; 2010). A range of types of invocation are pertinent in academic texts, which can be broadly grouped as implication, association, idiom, specialist terms, and graduation. Graduation and invocation through graduation are discussed later in sections 3.4.5 and 3.4.6; the other types are outlined below.

Implication

Attitude can be invoked indirectly through adjacency or doubling, with certain evaluations enveloping multiple or indirect targets, for example:

- *Any theory of psychodynamics that ignores Marcuse's observations on class is intellectually bereft*
- *Aicardi syndrome has received attention in the literature*

The first clause inscribes attitude, Appreciation:Valuation(-) of non-Marcusian theory, and also invokes Judgement:Capacity(-) through implication, as theorists who neglect to mention Marcuse must be lacking. The second clause does not inscribe attitude at all, indirectly invoking Appreciation:Valuation:Significance(+) of aicardi syndrome through the implication that if something has received attention, it is important.

Association

The use of terminology associated with certain meanings in other contexts can invoke Attitude. Authors can make intertextual references that invoke particular Attitude but which are only visible to those familiar with the references, and includes the political phenomenon known as dog-whistling (Albertson 2014). Similarly, lexical collocation can invoke Attitude, as many terms are typically read as either positive or negative (Hunston 2010; Channell 2000); pairing them with neutral words colours the neutral word with the positive or negative charge. For EAL speakers who may have limited exposure to many collocates, attitude invoked this way may be inadvertent.

Idiom

Lexical metaphors and idioms in themselves flag Attitude. Those sufficiently conventionalised become iconised (Martin 2016), where Attitudinal meaning overpowers ideational meaning. For example, 'gold standard' was once a live metaphor which has become completely infused with Appreciation:Valuation(+) (see Jones & Podolsky, 2015).

Specialist terms

Technical language can bleach or invoke Attitude. Bleaching is common in formal registers where items such as 'like', 'want' and 'sorry' signify politeness/ritual rather than express emotion (or modality) (Martin & White 2005: 85). Attitude may also be baked into items through 'axiologically charged technicality', or 'axi-tech', such as the use of the word *murder* as a legal term (Martin & Zappavigna 2006). To insiders, such terms are non-attitudinal, while to outsiders they may seem highly charged.

Identifying invoked Attitude

Invoked attitude can be difficult to analyse, particularly as invocation is often strategically ambiguous. Context is significant, as many items can carry a charge of variable strength and polarity. For example, *killed* shifts markedly:

Negative: I **killed** them. I **killed** them all. They're dead.

Positive: I **killed** it on the report writing skill test

Axitech: and when the mice were seven weeks old, they were **killed** (Text B)

In order to manage subjectivity, Martin and White (2005) suggest 'tactical readings' (:62). Don (2016), acknowledging subjectivity, offers a cline of invocation, ranging from lexical metaphors at the most 'direct' point on the cline, and in-group allusions at the most indirect (p. 9). Even with such a cline, the analysis of invoked attitude must come with the acknowledgement that some invocation may be over-interpreted, and some may be missed.

3.4.5 Graduation

Attitudinal meanings can be strengthened or weakened. Evaluation can be made more intense, as in '*calcium has a **vital** function within the bone resorption process*', which positions the author as 'maximally committed to the value position being advanced' (Martin and White 2005:152), or less intense, as in '*this shows that location is **somewhat** significant'*, which downscales commitment. The scaling of evaluation has many functions in academic writing, including to control the strength of claims (i.e. in the Results sections of research articles), traditionally conceptualised as hedging/boosting. Within SFL, scaling is modelled as Graduation, and delineated according to the subsystems of Force and Focus.

- Force adjusts the degree or intensity of evaluation, either up, e.g. '***very** interesting'*, or down, e.g. '*a **little** interesting'*.
- Focus softens or sharpens the category itself; up, e.g. '*this is the **actual** reason*' or down, e.g. '*this is **kind of** a factor*'.

Graduation is often realised through discrete qualifiers and quantifiers, as per the examples above. However, it can also be infused within many attitudinal lexical terms, each representing a point on a cline of intensity; e.g., *discomfort* versus *pain* versus *agony*. A graduation system network is shown on the next page in Figure 14.

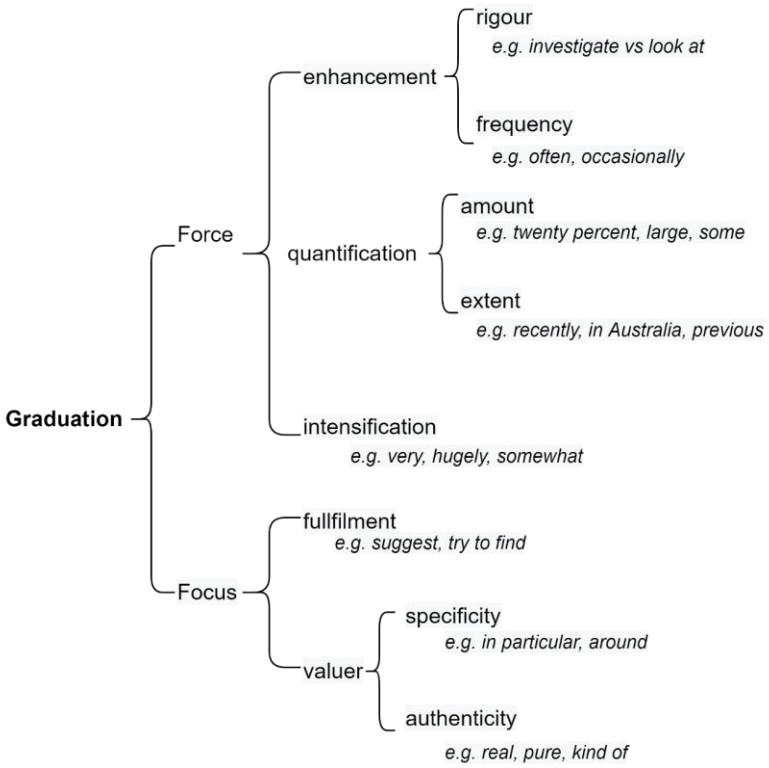


Figure 14. Graduation system, based on (Hood 2006, 2010a)

Scaling evaluation in academic contexts can involve very precise use of vocabulary and can be especially challenging for novices working in English as an additional language; EAL students are often inadvertently taught to over-intensify in their university writing (Coffin & Hewings 2004:159). Spoken academic language may in many contexts allow more upscaling and demand less precision: a number of MICASE-based studies (e.g. Tsang & Ohlrogge 2003) have documented the frequent use of intensified language in academic speaking.

Amplification

Evaluation can also be *amplified* across a stretch of discourse, expanding the impact of stance, via saturation, intensification, and domination (Martin & White 2005; Martin 2008).

a. *saturation* is the repeated deployment attitudinal language, which soaks the discourse, including retrospectively, with a particular stance
b. *intensification* is evaluation 'stretched out' via various kinds of repetition
c. *domination* is the placement of interpersonal meanings in key positions in a text, for example, as a recurring Theme, or hyperTheme, creating an interpersonal core (Martin, 2008: 134).

Previous studies have shown that saturation is a common strategy of stance amplification in academic writing (Cheung 2017b; Stosic 2021). In a multimodal text, amplification can be realised across concurrent modalities.

3.4.6 Graduation as Evaluation

Importantly, in academic discourse, evaluation can be invoked via graduation alone, in the absence of lexis which carries an axiological charge. For example, the clause *'osteocytes play a key role in bone formation'* contains no overt Attitude. However, there is still an attitudinal slant. This slant is realised through the use of 'key' to Graduate 'role', which creates emphasis. The emphasis, drawing attention to a particular entity – in this case, osteocytes –, invites the reader to align with the writer's stance (Martin & White, 2005).

Graduation of non-attitudinal lexis represents a significant evaluative resource in academic contexts, forming the core mechanism by which the ostensibly non-evaluative discourse enacts persuasion (Hood 2010a; Hao & Hood 2019). A number of specific strategies which exploit Graduated Attitude are deployed in academic writing. A common strategy of attitudinal invocation in research articles is the upscaling of Graduation of afflicted populations (Stosic 20201). For example:

- '*The number of women in medicine has grown <u>rapidly</u> <u>since 1970'</u>*, (example from Li et al., 2020)

Here, the concept of growth is graduated twofold, with 'rapidly', upscaling through intensified Force, and with 'since 1970', upscaling through quantified Force. Through such Graduation of non-attitudinal topic items, writers can 'claim centrality' (Swales 1990) without having to overtly inscribe axiologically charged terms which openly flag the text as subjective.

Hood (2006; 2010a) demonstrates that graduation is a crucial resource for positively evaluating one's own research. As many have pointed out, it is risky to explicitly state the value of one's research, as this is easily countered; evaluation via Graduation offers a way of implicitly appraising one's own research positively. Hood (2006) demonstrates the ways in which an extract of an academic text repeatedly amplifies the experiential components of meaning via upscaling graduation:

> *'The aim of the study was to* ***extend*** *Walker's work to* ***all*** *British universities so that these* ***and other*** *relationships could be tested out on a* ***much larger*** *sample of mature students* (example and added emphasis in Hood 2006: 43).

As 'more' is 'better' (:43), the upscaled (*extend, all, other, much larger*) current study is implicitly positively evaluated.

Evaluation through Graduation of non-Attitudinal items works in a number of ways to favourably position the current research. Writers in psychology for example typically downscale the scope of rival interventions, in order to set their own proposed treatments up as an attractive alternative (Stosic 2021). Graduation presents a valuable pathway to subtly critique the work of ones' peers while preserving collegiality. This may be particularly important in proposals, where writers hope to broadly curry favour, rather than to inadvertently antagonise.

In written academic texts, Attitude may be completely invoked, without any overt inscription. In spoken presentations, however, invocation of Attitude through Graduation alone may not be 'enough' Attitude ('frankness') for the register, and typically a variety of overt and covert realisations are deployed.

3.4.7 Graduation across modalities

Graduation can be realised through paralanguage. Hood and Forey (2005) found that while presenters varied in their use of gesture, one consistent interpersonal function of gesture was the amplification of attitude. Hao and Hood (2019) demonstrate how health science lecturers upscale non-evaluative meanings through gesture. Muscle tension can express intensification, and the size of gestures can express quantification (Hood 2010b). Facial expressions representing emotion, and gestural beats and oscillations can intensify the strength of a meaning (Hood 2007; Hao & Hood 2019). Hood and colleagues thus demonstrate that spoken

language is indeed ‘essential equipment for learning other things’ (Halliday 1989:97), inducting students into the values of the discipline as well as its technical contents. It has been shown that in academic presentations speakers may tend to verbally downscale certain kinds of information. Rowley-Jolivet (2015) for example found that STEM researchers generalised numerical figures in conference presentations, giving numbers that were much more approximate and much less frequent than their equivalents in parallel written papers.

3.5 Embedding and metaphor

In SFL, the concepts of stratification and instantiation allow the modelling of language features which can be otherwise difficult to manage. Language is understood as a flexible resource, and novel, unusual or ‘incorrect’ choices are understood as just as valid and as meaningful as any others: the model fits authentic language, not theoretical language. For example, in the system of Appraisal, described in the previous section, evaluation is not seen as existing in particular lexical or grammatical categories, but as types of discourse semantics meanings which can be realised in a number of ways through lexicogrammar. The orientation to layered hierarchies of meaning opens up the concept of embedding, where a higher-level phenomenon can function at a lower level: and metaphor, in which one category of phenomenon functions as another category. These concepts are crucial for understanding real instantiations of language, which can be messy and complex but are always fundamentally functional.

3.5.1 Rank and embedding

The concept in rank relates to the compositional hierarchy within a system, while embedding refers to the functioning of a higher-level phenomenon at a lower level. At the level of lexicogrammar, for example, the rank of *clause* is realised by patterns of processes, participants, and circumstances. It is possible to repack a whole clause into the role of a circumstance, participant, or even part of a participant in a larger clause, thus shifting its rank downwards. The following example from Text C includes a rank-shifted clause: ‘*The overarching principle that helps staphylococcus aureus in overcoming the innate immune system is the capacity of overcoming stress’*. The main verb here is ‘is’:

The overarching principle that helps staphylococcus aureus in overcoming the innate immune system	*is*	*the capacity of overcoming stress*
Participant	Process	Participant

Within this example, there is a restrictive subordinate clause '*that helps staphylococcus aureus in overcoming the innate immune system'* that is not operating as an independent clause, but as part of a nominal group. As the clause operates as a clause component, it is therefore rank-shifted, or embedded. Embedding can occur at all levels of abstraction in language: at the level of clause, semantics, and even genre.

3.5.2 Congruency and markedness

Markedness and congruency are important resources. Both refer broadly to the concept that some language choices are typical or neutral, while others are significant in some way. Unmarked choices are those made 'unless there is good reason for choosing something else' (Halliday 1985:45). For example, within the system of Theme, marked and unmarked theme are possible. It is usual to position the *subject* of the clause in the initial thematic position as the point of departure for the message (Halliday 1985; 2004). This is the normal, 'unmarked' realisation. It is also possible to construct a clause using incongruent or 'marked' theme, in which something other than the subject of a clause is positioned as theme. Clause complexes which begin with adjuncts, complements, or dependent clauses are all marked. The previous example clause from Text D exhibits marked Theme:

The overarching principle that helps staphylococcus aureus in overcoming the innate immune system	*is*	*the capacity of overcoming stress*
Theme (marked)	Rheme	

Marked theme can be used to preserve flow of Theme/Rheme, or for a particular rhetorical effect. For example, it has been shown that marked Theme is deployed as a resource in museum blurbs which strengthens the power of the written text to draw viewers into engagement with the exhibit (Blunden 2017).

Congruency refers to the tendency of certain meanings to be realised by certain patterns at a lower strata. For example, at the level of discourse semantics, offers of information tend to be realised at the lexicogrammatical level through declarative clause structures, for example: *'I will now define osteoporosis'*. This realisation can be characterised as *congruent*. The inherent flexibility of language, however, means that incongruent realisations are also possible, with particular rhetorical implications. Signalling an upcoming definition can also be realised as an interrogative: '*What is osteoporosis?'*. The ability to re-construe one type of thing as if another type of thing is arguably the very foundation of scientific knowledge, as possibilities for

meaning-making are not set in a particular form but open for manipulation and expansion. Incongruent realisations are characterised within SFL as metaphor. There are multiple types of metaphor across language strata, including contextual metaphor, and grammatical metaphor. Contextual metaphor is metaphor at the outermost stratum of genre, where one type of social function does the work of another. In academic texts, contextual metaphor can involve the use of informing genres for the purposes of persuasion. Contextual metaphor is described in further detail in the next section.

Grammatical metaphor is the phenomenon by which meanings at the level of discourse semantics are realised by incongruent or marked choices of lexicogrammar (Halliday 1985; 2004). Congruently, *things* are encoded by nominal groups; *happenings* by verbal groups; *qualities* by adjectives; *statements* by declaratives; *figures* by clauses, and so on. Incongruency involves transcategorisation, creating stratal tension. For example, this can involve a happening realised by a nominal group, or a command realised in the declarative mood:

i. '*argue*' → '*argument'*

ii. '[*you*] *look at them underneath this'* → *'You can see them underneath this*'

(example from Hood, 2017:198)

A particularly important type of grammatical metaphor in academic language is the re-construal of processes, qualities, or circumstances into nouns via nominalisation, for example as in: '*argue*' → '*argument'*. Nominalisation is a key resource in scientific language which stacks and tracks meanings throughout a text. Grammatically treating non-things as a things allows nominal group expansion, where the noun is pre-modified and qualified: '*a bitter argument that went on and on*'. Once introduced as a noun, the thing can be tracked as a specific deictic, such as 'it', across subsequent clauses via the system of Reference: '*This argument…. It endured… It was resolved when…*'. Nominalisation alters the type of information construed, concealing agency and relations within a figure, foregrounding ideational meaning, and backgrounding 'personal and subjective voice' (Liardet 2013:163).

Importantly, not all nominalisation is metaphor: some types of nominalisation are congruent rather than trans-categorised. Hao and Humphrey (2019) point out that many scientific nominalisations do not incongruently represent simple happenings, but are *activity entities*.

Activity entities represent multiple components, such as the steps within DNA transcription, and can be congruently realised either as items by nominal groups, or as 'momented' steps via a series of clauses. Unlike grammatically metaphorical nominalisation, activity entities cannot easily be unpacked (Ravelli, 1999). Mastering movement between itemised and momented representations of activity entities is a key part of science education (Hao & Humphrey, 2019).

3.6 Instantiation and co-construed meanings

Multimodal analyses involve consideration of the 'synergies' between types of meanings across and within modalities. In presentations, segments of synchronous spoken and shown text together form units of meaning. Slides are at the time of delivery fixed in place, anchoring meanings, with speech acting as commentary (Rowley-Jolivet, 2002: 21). Useful concepts here are those of *rhetorical relations*, *commitment*, and *coupling*.

3.6.1 Speech-slide relations

The types of relationships between spoken and visual meanings can be broadly understood in terms of rhetorical relations of projecting, elaborating, extending, and enhancing (Mattheissen,2006; Roehrich 2016). Elaboration is a very common rhetorical relation between text and image, as verbal text tends to construe itself as the generalised linguistic Value, often in the caption – e.g. '*this', 'Figure 2.6', 'the global distribution of reported and estimated AIDS cases as of mid-1995'* – with more specific meaning (i.e. the Token) provided by the accompanying image (Mattheissen 2006). In presentations, slides may incorporate multiple visual elements which relate to the text on the slide, or to the speech uttered by the presenter. Blunden (2017) shows that verbiage accompanying an image can be seen as a 'verbal vector', which prompts a certain degree of reader engagement with the image.

3.6.2 Instantiation and Commitment

Commitment concerns the degree of meaning potential that is 'instantiated in one instance or another' (Hood 2008:356), as either more generalised or more specified. For example, explicitly inscribed Attitude, commits more interpersonal meaning than does inscription of Attitude, such as that achieved via Graduation (:362). Hood (2008) examines commitment in the context of summarising, characterising the re-construal of meaning from a source text to a summary text as a 'process of re-instantiation', where meaning potential is opened up and then recommitted: summarising is not a reduction of meaning, but rather an altering of meaning

involving multiple levels of semiosis. Recommitment in summary writing frequently involves the packing or unpacking of concepts into or out of grammatical metaphor, and re-construing concepts in different clause elements (Walsh Marr 2019).

In multimodal texts, we can look at which kinds of meanings are instantiated in modalities, and the varying degrees of commitment made across them. Commitment and the relationship of image to accompanying text has been explored in newspaper texts. Caple (2010), for example, explores allusion and tension in newspaper headings and images as a semiotic game, with different kinds of meaning instantiated in different modalities, which engages readers and thus engenders community bonding and loyalty. Slideshow presentations represent a multimodality in which different kinds of meanings may be instantiated across and between the presenter's utterances, gesture and intonation, and the contents of slides. Slides tend to contain highly dense ideational meanings which are reformulated and extended in speech (Rowley-Jolivet 2012). As studies have found that slide use differs across disciplines, it may be the case that the commitment of meaning on slides and the recommitment in speech varies depending on the discipline. For example, Zappa-Hollman (2007:467) found that in some disciplines, slides and visual components were considered to be ancillary in presentations – optional, and only used when needed – whereas in other disciplines, slides and visual information were obligatory, highly valued, and likely to commit significant amounts of specific ideational meaning.

3.6.3 Coupling and re-coupling

Coupling refers to the repeated co-occurrence of functional features in a text. Coupling can occur within and across strata, metafunctions, channels, and modalities (Zhao 2010). One type of coupling is that between intonation and semantics; a particular intonation can be repeatedly coupled with a declarative clause to create a particular semantic 'key' (Halliday & Matthiessen, 2004; Halliday & Greaves 2008: 50). A statement, realised congruently via a declarative clause, is typically co-realised through a fall tone intonation in a 'neutral', unmarked way—this is the usual co-realisation of intonation, lexicogrammar, and discourse semantics. A statement as a declarative in a rising tone is a *marked* realisation. As intonation trumps mood structure, the effect is one of 'challenge', implying a concessional key ('*I like it but...*').

Table 7. Rhetorical effect of tone choice (Halliday & Greaves 2008: 50)

Tone choice	**Tone pattern**	**Notation**	**Rhetorical effect**
Tone 1	Fall	//1 I like it//	Neutral response to question

Tone 2	(Fall)^rise	//2 I like it//	Defensive response
Tone 3	Level rise	//3 I like it//	Non-committal or indecisive response
Tone 4	Fall rising	//4 I like it//	Reserved response
Tone 5	Rise falling	//5 I like it//	Strong response

Gesture and intonation are often closely coupled. Zappavigna et al. (2011) examine how couplings of gesture and intonation work together in high-stakes youth justice situations, showing that gestural beats synchronising with interpersonal meanings create emphasis and salience, strengthening the meanings made by speakers (:230).

Another type of coupling is that which occurs between ideational and interpersonal meanings. In academic texts, discourse concerning the research topic typically couples with particular types of evaluations, and discourse concerning research activity with other types of evaluations. For example, as described previously, journal articles from psychology often negatively appreciate health conditions, and positively appreciate treatments (Stosic 2021); in English discipline research proposals, Cheung (2017b) found numerous couplings of Attitude and Ideation , including 'commendation' the object of study through upscaled graduation.

Hao and Humphrey (2012)'s examination of the type of evaluation in undergraduate and expert biology texts showed that each of the generic stages of the introduction shows a particular coupling of types of field with types of Attitude. In Biology, observed entities are evaluated in terms of Valuation, whereas man-made entities are evaluated in terms of composition. They also observe that different levels of texts are associated with different types of couplings: novice texts evaluate the effectiveness and efficiency of methods, and the necessity and worth of other research; experts evaluate the benefits of objects of study, and research in terms of in/completeness (Hao & Humphrey, 2012). The evaluation of research as composition can be observed in the bridging course presentation feedback form, which asks whether the presentation was 'clear and effective', 'well organised', 'clearly signalled', 'well timed', and so on (see Figure 5). Ultimately, evaluative meanings paired with certain kinds of ideational meanings negotiate community (Martin 2010).

Couplings can also be re-coupled. Szenes and Tilakaratna (2021) demonstrate how authors of critical reflections create couplings of Affect(-) and Judgement(-) with happenings and participants, forming units which are then coupled with Judgement (+). They show that the

following sentence recouples ‘detrimental behaviour’ with ‘the development of intercultural competence’:

> *‘the development of intercultural competence is key to overcoming my detrimental behaviour in a multinational team situation’*

There are two levels of evaluation: ‘my behaviour’ is negatively evaluated as detrimental [-propriety]; and ‘my detrimental behaviour’ is then recast positively via overcoming [+propriety] (2021:13). This kind of re-coupling allows critical review writers to evaluate and recast past situations, enacting ‘transformation’ which is central to critical reflection. Successful writers couple past behaviour with negative attitude, and then recast these evaluations in the context of disciplinary meanings in order to construe their ‘transformation from novice to professional whose behaviour aligns with the valued theoretical positions of their fields of practice’ (:14). Re-coupling is therefore a potentially significant resource for construing specialist gaze: either professional, or disciplinary.

3.7 Genre

Genre represent key context for analysis of discourse in SFL, as genre is ‘how things get done’ (Martin 1985: 248). Genres realise social function, and represent language at its highest level of abstraction. The social functions performed through language can rarely be done instantly and usually require multiple steps, resulting in predictable recurrent configurations of text with distinct steps, or stages, that structure and make sense of the unfolding text (Rose 2011: 209). In order to engage in various social practices, knowledge of relevant genres is required: for example, knowing that a recipe lists ingredients before steps. From this perspective, discourse and text can be seen as instances of language in use within which semiotic resources of genre may be combined, stacked, embedded, and overlaid. As speakers of a language, we are able to draw from systems of genres in order to generate discourse and enact social purpose (Martin & Rose 2008: 258).

Within SFL, individual genres are characterised in terms of their distinct, predictable patterns of textual staging. A recipe, for example, as a procedural genre, includes the generic stages of *goal* ^ *materials* ^ *steps*. SFL then groups genres into broader categories. Genres can be taxonomised into families, as in Rose’s gene families shown overleaf in Figure 15, or described topologically, with individual genres relating and differing across multiple dimensions (Mattheissen et al. 2010: 220; Rose 2011). For example, story genres can be differentiated by

the dominant types of attitude they involve: for anecdotes *affect*, for exemplums *judgement*; and for procedural recounts and other academic texts *appreciation*. Stories are the most central genres, and scientific texts, too, ultimately tell kinds of stories (Martin & Rose, 2008; O'Connor & Cargill, 2013). A research article tells the story of research activity, not as it happened, but in a way which makes sense of the findings of that research activity (O'Connor & Cargill, 2013; Cargill, 2016). In the case of the doctoral proposal, the research story revolves primarily around the rationale for proposed (or more accurately, *anticipated*) future research activity.

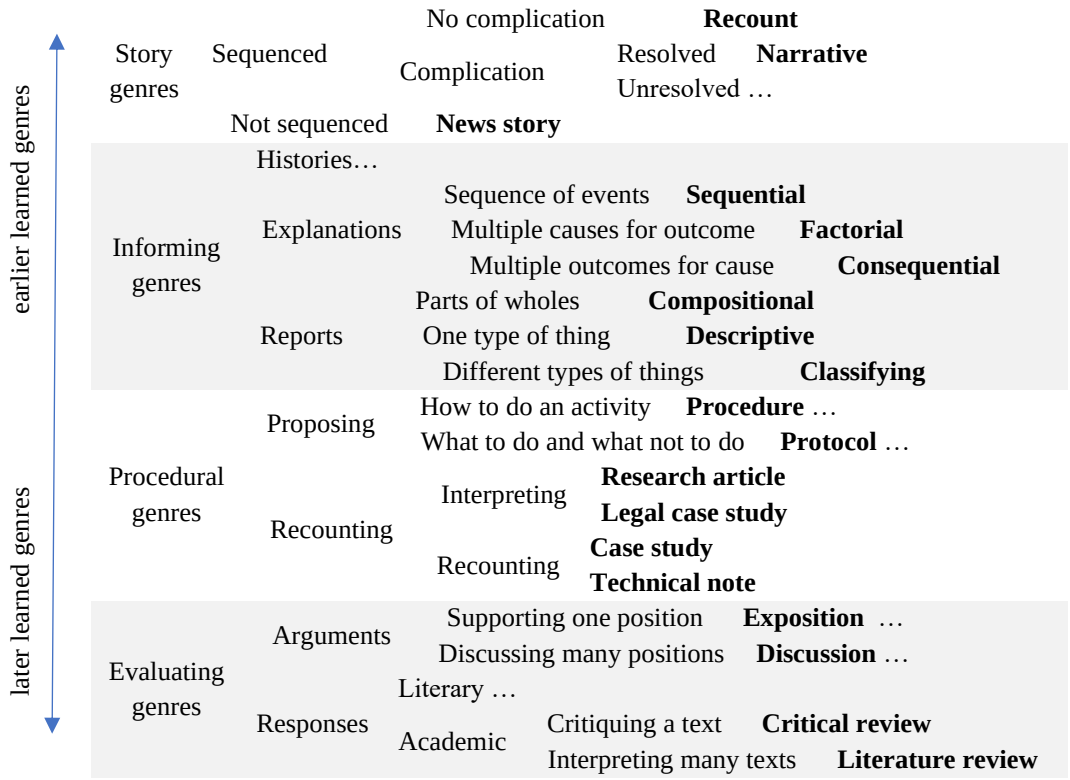


Figure 15. Genre families, based on (Rose 2011:213)

Literacy development throughout primary schooling and beyond involves the building up of a repertoire of 'building block' genres, and then more complex genres, which enables engagement with and production of increasingly sophisticated texts (Coffin & Donohue 2014: 50). Genre pedagogy involves facilitating expanded repertoire development for all learners. Elemental or 'school' genres have been described in (Martin & Rose 2008; Rose 2012); typically, children begin with simpler narratives before moving into more intricate narratives and genres of text response, explanation, and description, which require generalisation and abstraction. From this, writers then move into increasingly analytical genres of persuasion and critique (Humphrey & Economou 2015). At the tertiary and research level, these building block

genres are combined and manipulated in sophisticated ways to enact technical disciplinary meaning-making.

The modelling of genre as distinct social process has practical and theoretical advantages. In terms of literacies teaching, genre as social purpose deftly connects form to function and demystifies intimidating text types. The theoretical advantage of understanding genre in terms of building block genres, and then of larger genres through the concepts of genre complexing, simplexing and metaphor, is that this limits proliferation of endless description which plagues other approaches to text.

3.7.1 Generic staging

The staging of genres allows us to recognise a particular genre and understand what the text is doing. Stages are differentiated by shifts in field, tenor, or mode (Hood 2001:32). Some stages of particular genres are obligatory, while others are optional: for example an Exposition always includes *Thesis* ^ *Argument(s*), and sometimes also includes Reiteration of the thesis, giving a staging of: *Thesis* ^ *Argument(s)* ^ *Reiteration*. Key genres in academic contexts and their stages are outlined below, based primarily on Martin and Rose (2008; 2012).

Informing genres

Reporting and explaining genres are fundamental to building technical meanings across the disciplines. These genres describe and define phenomena. Types of reporting and explaining genres and their component stages are given below, in Tables 9 and 10.

Table 8. Reporting genres

Type	Social activity	Stages
Taxonomic	Categorising and describing types of phenomena	General Classification Description
Classifying	Classifying and describing types of phenomena	Classification System Types
Descriptive	Classifying and describing a phenomenon	Classification Description
Compositional	Describing parts of wholes	Classification of entity Components Definition

Table 9. Explaining genres

Type	Social activity	Stages
Sequential	Explaining a sequence	Phenomenon

		Explanation
Factorial	Explaining multiple causes for one effect	Phenomenon: outcome Explanation: Factors
Consequential	Explaining multiple effects from one cause	Phenomenon: cause Explanation: Consequences (Reinforcement)
Conditional	Multiple or alternative causes and effects	Phenomenon Explanation

Procedural genres

Procedural genres propose and/or recount procedure. Procedures (offers) and protocols (commands) enable future research activity, detailing the aims and steps of a research process. Research articles are characterised as procedural recounts, which function to describe previous research activity. Procedural genres span fields, as procedures and methods themselves concern the specialised field of science rather than the exploration field (Martin, 1992). The established stagings of procedures and procedural recounts are given in Table 11 below:

Table 10. Procedure genres

Type	**Social activity**	**Stages**
Procedure	Enabling research activity	Purpose Equipment Steps
Procedural Recount	Recounting research activity	Abstract Introduction Experimental Details: Methods Results Discussion Conclusion References

Methods sections within Research Articles are typically minimal, often simply comprising 'the object studied and the technology used to study it' (Martin and Rose (2008: 211). This relates to the core function of Methods. As O'Connor & Cargill point out, Methods sections do not primarily function to enable research activity through replication of procedure, as is often stated, but rather to legitimise the research activity that is being reported (O'Connor & Cargill 2013).

Evaluative genres

Evaluative genres include not only openly evaluative genres such as Discussions, which debate a range of viewpoints, and Expositions, which advocate for one position in particular, but also

includes ‘metaphorical’ genres of evaluation, such as introductions and literature reviews. Note that Introductions are discussed further in section 3.7.5 as types of contextual metaphor. Key types of evaluative genre are given in Table 12:

Table 11. Evaluating genres

Type	**Social activity**	**Stages**
Exposition	Supporting one point of view	Thesis (Background) Supporting point/s x n Reiteration of thesis
Discussion	Discussing multiple points of view	Issue (Background) Perspective1 Perspective2 (Resolution)
Challenge	Rebutting a point of view	Position Rebuttle Antithesis
Literature Review	Discussing previous bodies of work on a research topic or approach	Value and Significance (Opposing View) Research Question Methods) Discussion Conclusion

Evaluative genres often contain other ‘smaller’ genres. Genre embedding, or simplexing, is discussed further in section 3.7.3 below. In addition, non-evaluative genres can also have an evaluative function; this is discussed in section 3.7.5.

3.7.2 Phases within genre stages

Within the generic stages often exist discrete stretches or pulses of text with a consistent field and tenor (Rose 2006). These phases do not represent entire genre stages, but phases of register within stages. A stage in a lecture, for example, can shift between phases of explaining and describing (Hood 2017). Hood (2017) characterises three types of phase across a cline in university lectures: more interactive, explicit, concrete phases of *describing*; and more objective, implicit, generalised phases of *reporting;* and phases of *explaining* situated in the middle of the cline. In live language events, physical orientation such as the positioning of a speaker within a room can be meaningful in terms of genre phases. Hood (2010b) shows that

the location of a teacher in a classroom correlates to phases of meaning: proximity to the board is associated with informing, whereas proximity to students correlates to eliciting.

3.7.3 Simplexing genre

Genres can be embedded within one another to create larger genres, *macrogenres* or *genre simplexes*. Like a clause containing clauses rank-shifted as participants or circumstances, genre simplexes contain rank-shifted genres embedded in a single cohesive whole genre. For example, an anecdote genre may function as an orienting stage within a recipe, or an exposition may include a personal anecdote about the topic comprising an argument stage.

Genre embedding is associated with higher-valued texts. In undergraduate level expositions and discussions, genre embedding has been shown to enable students to make more sophisticated arguments in their writing (Woodward-Kron 2005; Szenes 2017). Szenes (2017) explores in detail the embedding of genre in high-graded undergraduate business reports, finding that the reports represent 'a genre simplex whose 'depth' is built by embedding elemental genres as stages in a multivariate structure' (p. 127). Constituent stages of Discussions were observed to be realised by an entire Exposition or another Discussion. Szenes further demonstrates that genre embedding can extend down through multiple orders: embedding within embedding. This embedding allows information about different factors in the report to be appropriately contextualised in order to allow the writers to 'make a point', and thereby enable business decision-making (2017: 206). Rather than representing a chain of genres in sequence, each of these embedded genres served to fulfil the function of the broader genre, enhancing it in some way.

3.7.4 Complexing genre

Genres can also be chained together sequentially to create longer texts. Just as the tactic serial combination of clauses is characterised as a clause complex, texts which are composed of a serial sequence of genres can be characterised as genre complexes. Blackwell and White (2018) describe how university lecturers represent genre complexes. In the classroom, lecturers spontaneously deploy a rage of genres in sequence to create chained genre complexes which are adapted to the specific context of the lecture. The authors characterise genres and macrogenres as 'building blocks' which in terms of genre can stand alone but can be also sequenced in order to constitute the larger text. Though occasionally comprising a single macrogenre, typically lectures involve the sequencing of core and macrogenres.

Academic textbooks too can be characterised as genre complexes, reporting on various phenomena across distinct chapters.

3.7.5 Contextual metaphor

Texts may have multiple overlapping functions. The bridging course identified multiple overlapping functions of research proposals, described in the previous chapter. In chapters 1 and 2, overlapping social purposes of the proposal presentation identified by literacies specialists were identified: to demonstrate competency, to persuade an audience of the project's worthiness, to show disciplinary belonging, and to access full candidature. In academic texts, the dual purposes of objectivity and evaluation can be characterised in terms of contextual metaphor. This is particularly relevant in Introduction stages which have long been of interest within education and applied linguistics fields due to their importance to the persuasiveness of an academic text. Introductions typically involve the following functions, as per Martin and Rose (2008):

- *Location* of the text within the field, by reference to previous research
- *Identification* of a problem previous research has not successfully solved
- *Outlining* of the goals of the current study (2008:210).

Hood (2010a) characterises the Introduction stages of research articles as a distinct persuasive macrogenre, or macroproposition, (p. 37) which serves to create a warrant for the current research, thus functioning as a contextual metaphor which evaluates via non-evaluative genres. The introduction macrogenre is composed of a sequence of descriptive reports, descriptions, and occasionally other core genres, which function to align the reader to the significance of the topic and the existence of a research gap. Hood finds that the pattern is consistent across disciplines though the weighting of these core genres may vary. Academic introductions typically begin with a descriptive report on the general topic of investigation, often denoted as 'background', narrowing the field as they progress. This descriptive report functions as a contextual metaphor which argues for the significance of the author's object of study, and has been characterised as a 'Topic Significance Stage' (Stosic, 2021), and aligning with Weissberg and Bukers' (1990) Stage 1 of academic Introductions (in Cargill and O'Connor 2013: 44–) see Figure 1). This stage is typically followed by a second distinct descriptive report on research in the discipline on the topic that is 'the literature' which describes different aspects of other research. The report on literature functions to argue for a

need for new knowledge, roughly mapping to Stages 2 and 3 of Weissberg and Buker's (1990) model. Finally, the writer offers a description, or preview, of the current study (2010a: 37), which argues for the contribution of the current research. Each embedded genre is associated with different patterns in the deployment of evaluative resources, and with varying levels of overtness, in service of each of the three strands of persuasion.

Table 12. Research warrant macrogenre

Macrogenre	**Social activity**	**Stages**	**Ideational content**	**Attitudinal content**
(Hood 2010a)				(Hao & Humphrey 2012)
Research warrant	Justifying the research	Descriptive Report: Phenomenon Description	Topic of study	e.g. Valuation (+)
		Descriptive Report: Phenomenon Description	Other Research	e.g. Composition (-)
		Description	Current research	e.g. Composition (+)

Understanding Introductions as contextual metaphor is important in being able to articulate the meanings enacted within the proposal presentations and the multiple purposes identified by the bridging course discussed in Chapter 2. Many approaches to academic discourse treat persuading as a different type of meaning to informing, rather than as an emergent type of meaning, separating the interpersonal metafunction from ideational and textual, leading to missing links in analysis. For example, the treatment of citation as being either 'informative', when contributing to providing background; 'evaluative' when contributing towards a need for new knowledge; and 'persuasive' when citing one's own previous work as a claim to competence (Feng 2011). This implies that background information citation does not persuade, when it does contribute to persuading the reader of the importance of the topic, and of the writer's topic knowledge. The SFL perspective is that citations simultaneously perform multiple types of functions, one congruently (informing/evaluating), and the other metaphorically (persuading). Persuading is enacted not only directly through covert evaluation, but metaphorically *through* subtleties in discourses of informing.

Proposals

While procedures and procedural recounts have received significant attention from the SFL perspective, prospective procedures such as grant proposals or doctoral proposals have received far less. In terms of social purpose, grant proposals represent bids for research activity.

A grant proposal genre is prospective and enabling but not for the purpose of enabling research activity of others; rather it *pitches* or *promotes* research activity. As identified by work in ESP, we might expect a staging of *Introduction ^ Methods ^ Compliance Claims ^ Competence Claims ^ Significance*. Doctoral research proposals too are a type of enabling and promissory procedure genre, though far more certain than a grant proposal. As described in previous chapters, written doctoral research proposals are both regulatory planning documents and persuasive documents which establish the rationale and feasibility of the proposed research. Doctoral proposals not only propose and justify future research, but *anticipate* it as part of the process of research candidature. These can be characterised as **anticipated procedure**. Likely staging for these anticipated procedures, as per the bridging course described in the previous chapter, is *Introduction ^ Literature Review ^ Research Question ^ Methods.*

3.8 Presented genres

This author takes the perspective that presentations are most usefully characterised as a genre embedded in a superstructure, with superstructure elements analogous to the peritext of written documents. Academic presentations relate to a parallel text presented in a particular modality, rather than representing a singular genre, although the modality implies a slightly different social purpose: presentations are live face-to-face events which *engage* an audience, and as such may be expected to share some characteristics with genres of engagement, such as stories or songs. Indeed, presentations do seem to be more story like than their parallel written texts, and a broad *problem ^ solution* structure of academic presentations has been identified from a variety of approaches. DuBois (1980), for example, identified narrative structuring in scientific conference presentations, and in the previous chapter, the researcher education support materials which liken the proposal presentation to a faerie story or triumph narrative is outlined. Academic texts do sometimes adopt characteristics of narratives, such as evocation of a setting. Morton, (2009), for example, describes the use of storytelling in student architecture presentations as a successful strategy which engenders ‘an effect of inviting the audience to share the speaker’s strong feelings’, and thus aligning the audiences with the stance of the speaker. The deployment of stories may be related to discipline. Researchers using qualitative methodologies in the social sciences often incorporate vignettes or anecdotes, which transport the reader to a compelling scenario. In ethnography, such description is important in providing credibility for the research; writers are encouraged to ‘grab’ readers with evocative descriptions which cause readers to feel immersed in the account (Glaser & Strauss, 1967, in Gilgun 2005).

3.8.1 Superstructure of presentations

Presentations involve a distinct superstaging as a function of their mode. This is often characterised as *Introduction* ^ *Body* ^ *Conclusion* (Dubois 1980: 151) but I nominate *Set-Up* ^ *Body* ^ *Terminate* as a more useful perspective.

The term 'set-up' is here used to refer to the very first moments of a presentation, before the presentation proper, in which speakers introduce themselves, orient the listener (Dubois 1980), and 'situate the talk in the immediate context' (Hood & Forey 2005: 294). The term 'introduction' is reserved for the distinct persuasive macrogenre described in Hood (2010a).

Set-ups function not only as peritext but as a type of macroTheme (Martin 1992) orienting the audience to the presentation. Set-up stages can have an important role in construing the speaker's credibility (Rowley-Jolivet & Carter-Thomas, 2005:47). In conference presentations, the presenter begins by addressing the audience in a here-and-now, interactive way, before changing gears, and stepping into the role of author of a prepared monologue (Goffman 1981: 185). Presenters greet and thank the audience, make acknowledgements, outline the structure of the presentation, and make impromptu, incidental comments (Dubois 1980: 152; Thomson 1994: 176); indeed, greeting and thanking are quite ritualised (DuBois, 1980). The metafunctionality of set-ups have been noted. Rowley-Jolivet and Carter-Thomas (2005) delineate setting up into 'interpersonal' components and 'discourse' (i.e. textual and ideational) components. Hood and Forey (2005), working from an SFl perspective, explicitly identify ideationally foregrounded meanings such as giving the topic and contextual information; textually foregrounded meanings such as detailing the structure of the presentation; and interpersonally foregrounded meanings including greeting, thanking, joking and commenting (2005: 294). Lectures too have been shown to have a set-up stage (Thompson 1994:176), wherein the lecturer announces the topic, scope, structure, and aims of the session.

Terminate stages are the bookend to set-ups, indicating that the presentation is finished and 'bringing the speaker back down from his horse' (Goffman 1981: 175). The conclusions of academic presentations have been characterised as the breaking of the fourth wall, akin to an actor breaking character, or a storyteller switching roles from protagonist to audience, offering a coda (Goffman 1981). Presenters typically thank the audience and open the floor for questions.

Within the superstructure of Set-Up and Close, the Body of the presentation has its own specific social purpose, correlating to a particular genre, or, as in the case of lectures, genre complexes. Studies have found close similarity between the overall stagings of presentations and their parallel papers (Weissberg 1993). The genre enacted by the doctoral research proposal presentations functions to report on research activity not yet done, and can therefore be expected to contain genres of Introduction ('why') and some form of procedure ('how').

3.8.2 Introduction and evaluation in presentations

The introductions of academic presentations have received particular attention in the literature. Dubois (1980) identified substages of: topic generalisations; topic amplification; and then more specific information pertaining to the particular focus of the current talk (1980: 154–157). This is similar to the structuring of written introductions identified by work within both ESP and SFL, described previously. Studies have shown that, past a set-up stage, introductions tend to be highly aligned to their written counterparts, and thus more recited and dense, and less interactive than the rest of the presentation (Weissberg 1993).

A characteristic unique to presented introductions is the glossing of literature review. It has been shown that in presentations, typically, very little time is spent on discussion of other literature in the field (Weissberg 1993; Rowley-Jolivet & Carter-Thomas, 2008). Rowley-Jolivet and Carter-Thompson's (2006, 2008) moves-based exploration of scientific conference presentations and comparison to parallel written papers shows that presenters emphasised novelty and results in their introductions, with less time spent on background information, and much less time spent on discussion of other literature, with only a scattering of citations on slides. They found that identifying a distinction between the rhetorical moves of 'topic generalisations' and 'reviewing previous research' was extremely difficult, as reviews of previous literature were indistinct. Presenters give an abstracted birds-eye view of a field of research, likely to maintain focus on their own work within the limited timeframe available. While work on other academic presentations are valuable and have been highly insightful, it is not clear how they fit the staging of a Doctoral Research Proposal, nor its characteristics in terms of register and typical patterns of realisation. This research attempts to characterise the Doctoral Research Proposal Presentation as a unique and distinct staged genre.

Summary

This chapter has outlined the SFL approach to text, describing language as stratified and metafunctional. It described some of the key linguistic systems at play in texts – the ideational system of transitivity, the textual system of theme, and the interpersonal system of appraisal. Transitivity represents the basic ideational mechanics of a text. Theme indicates the relative importance and emphasis given to meanings within a text. Appraisal allows investigation of interpersonal aspects of texts. In particular, the Engagement system allows a systematic analysis of roles, identities/personae, and relationships created within discourse that are so important in oral texts (Lau et al 2020). Together, the three systems combine to present, organise, and evaluate meanings. The modelling of genre as resources of particular social purposes was detailed. Academic presentations were then characterised in terms of an embedded Body within a larger peri-textual superstructure of Set-Up and Close. Finally, it characterised doctoral proposals from an SFL perspective as *anticipated procedures* which in written form represent an ostensible planning genre which is metaphorically persuasive.

Chapter 4 Methodology

This chapter describes the research design, data collection, and coding tools and processes. The research occurs within the context of a researcher education program, described in Chapter 2, and analysis adopts a variety of tools from genre theory and Appraisal work in SFL, described in Chapter 3, in order to investigate how the texts under consideration unfold and fulfil a specific social purpose.

4.1 Research design

In order to analyse the discourse semantics as they unfold across language, a whole-text, qualitative, interpretive approach is adopted, thus continuing an established tradition of theoretically grounded classroom case study linguistic research (Duff 2007). Text-based research involves the analysis of real examples of language, documenting natural use of language as texts within contexts, examining the nature of authentic texts integrated in and connected with social practices (Mickan 2017: 16–17). An interpretive approach, integrated with systematic theories of language and literacy practices, allowed the analytical depth necessary to investigate 'boundaries between phenomena and context' (Yin 2003: 13), and for categories for analysis to emerge from the data. Narrow and deep analysis of a literacy event contributes to the precision and accuracy of advice given to students about the kinds of things that are important in the genre, as part of a genre-based or text-based curriculum (Mickan 2013) and explicitly unpacks specialised literacy practices.

Selection of the research proposal presentation as an occluded and less-explored genre contributes to the usefulness of the research. The research here explores the use of evaluative resources via a qualitative analysis of genre and Appraisal in a small collection of doctoral research proposal presentations from within the health sciences. International HDRs represent a particularly productive context in which to firstly, examine the features of authentic texts generated by highly competent students, and secondly to identify and examine issues of disciplinarity in academic language and literacy practices. This includes analyses of how doctoral candidates structure their proposal presentations, the ways in which they create a rationale for their project, the ways in which they assert knowledge, the ways in which they align themselves with a particular strand of the discipline, and the ways in which they justify and describe various aspects of their proposed projects.

4.1.1 Event selection: research proposal presentation

The study occurred at an Australian university, and participants were international doctoral students in health sciences. The students were enrolled in a bridging program which I was able to join as a participant–observer. International HDRs, who enter degrees largely socialised into disciplinary ways of thinking and being (Bowen & Schuster 1986; Paulsen & Wells 1998; Riley 2002; Karimi 2014), but not necessarily into local socio-academic contexts, represent a particularly productive context in which to explore disciplinary language and literacy practices. The pedagogy and structure of the program as it existed at the time of data collection has been characterised briefly in Chapter 2. Examination of the research proposal presentation seminar offered a window into spoken doctoral literacy practices in the context of language education and disciplinary supervision.

4.1.2 Ethics

Ethics approval was granted in late 2010, permitting the recording of student presentations, the administration of interviews and questionnaires, and the collection of any relevant documents. Consent Forms, Information Sheets, and Contacts for Information on Project and Independent Complaints Procedure Sheets were distributed to interested volunteers. These documents are attached in the Appendices. In order to reduce demands on the participants, data collection was limited to a single page of demographic survey questions, a copy of the research proposal document where possible, and audiovisual recording of the presentation.

4.2 Data collection

4.2.1 Participation and recruitment

Data collection involved the researcher's auditing of two semesters of two streams of the program, from March to November of 2011, as a participant–observer. During the week 5 and 6 seminars, students were invited by the instructor to approach the researcher after class in order to volunteer for the project. Volunteers were given standard information and consent forms, and were informed that they were not obliged to participate, or to continue participation. Participants in this study were self-selected, and sampling was purposive, as the study required participants to be currently fully completing the program, that is, intending to

present in the final seminars. The student participants in this research were all international doctoral students for whom English was an additional language and were enrolled in the program upon commencement of their candidature. Native-speaker L1s were not included, as originally the scope of the research was focused on EAL spoken language development and competence before a major shift in study design occurred. Future extensions of this work would ideally include domestically enrolled and native English speaker health sciences presenters to expand the generalisability of findings.

The instructor present in the recordings gave consent for her interactions to be included in data collection. In order to minimise large disciplinary-based differences between the analysed presentations, participants were limited to the health sciences stream.

The researcher engaged in 'moderate' participation (DeWalt et al. 1998) in the classroom, and program material on the research proposal presentation and written research proposal were collected, in order to improve the researchers' comprehension of the literacy events and practices under investigation in their full institutional contexts. Classroom participation informed data selection, and ensured that any salient information and materials would be incorporated in the analyses.

4.2.2 Video recording of presentations

During the research proposal presentation seminars during the last few weeks of the program, the researcher video-recorded the presentations of each student. If a student had consented to participate in the project, the researcher retained a copy of their recording, along with the signed consent form and completed questionnaire. If they did not consent to participate, the original recording was then erased.

Based on the completion of consent and questionnaire forms, and then on the audiovisual quality of the recordings, a final group of five presentations was selected for in-depth analysis. Recording and transcript quality limited the kinds of analyses possible in some cases depending on whether or not all slides were captured by the recording, or whether the audio was clear. This study is descriptive, and seeks to explore the generic organisation and evaluative negotiation of the presentations. Because of this, presentations were not selected on the basis of their perceived quality or the particular characteristics of the presenter.

4.2.3 Transcription

The approach to transcription was functional, focusing on relevant features in a respectful, purposeful manner (Halliday 1985: 100–101). Transcription conventions are generally broad but finer detail is provided in areas of particular interest with corresponding annotation. Transcription was performed by the sole researcher, who had gained some familiarity with the individuals and topics. Transcription was challenging, due to the extreme technicality of the content, and performed over multiple passes over a period of years. No automatic or specialised transcription software was employed. Wordings were cross-referenced against slides where possible, parallel texts where available, and also against relevant journal articles in the field to ensure that terms were recorded accurately. Interrater reliability on verbiage was high; on samples of coding it was moderate. Ambiguous or double-coded instances are highlighted in the analysis.

Transcription conventions

Minimal conventions are used in order to preserve the focus on higher-order meaning rather than sounds. Detail is increased where relevant.

Table 13. Transcription conventions

Phenomenon	**Type**		**Convention**
Speech	Clause-level stress		*Italicised*
	Discourse markers		ah/uh
	Intonation		Tone group numbered (select analyses only)
	Pauses		…
Gesture	Beats		Underlined
	Strong beats	strong beat	
		strong open-handed beat	
	Pointing (textual)	pointing towards screen	
		specific pointing on slide, including with laser	
		wiggling cursor on screen	
	Iconic gesture (ideational)	one-handed	
		two handed	
		pinching	
		numbering (e.g. ‘2’)	
Orientation	Gaze	towards audience	
		towards slides	

Slides were viewed through video recordings due to practical issues with obtaining them separately, and were low-resolution and occasionally partially obscured. Some slides were therefore unable to be used for analysis. However, the unexpected advantage to this is that the slides were therefore experienced by the researcher similarly to how they were experienced by the audience – for example tiny citations were difficult to read, yet their function as citations was clear, thus preventing over-interpretation.

The presentations have been depersonalised as much as possible. Names, institutions, and identifying references to locations have been redacted. The gap in time between data collection and the publication of this thesis has strengthened de-identification.

4.2.4 Data items

Data items included the presentations, represented in the thesis as transcription and stills; a written proposal extract; institutional materials; and some bridging course materials.

Table 14. Data items

Source	**Institution**		**Student Participants**		
	Faculty template	Bridging course teaching materials	Presentation slides	Presentation transcriptions	Written proposal Introductions
	Template	5x workshop slides Feedback form	Texts A, B, C, E	Texts A, B, C, D, E	Text B2, C2 (extract)
Location	Chapter 2	Chapter 2	Appendices	Appendices	Appendices

It is acknowledged that the strength of this research would be improved with the addition of data such as interviews.

Eliminated data items

Of over twenty students within the bridging course who were invited to participate, eight prospective participants returned completed consent forms. This number was reduced to five for reasons of recording quality and disciplinarity. Due to the shift in scope of the study from the pilot study to its eventual form, field notes and surveys did not yield relevant data other than notes pertaining to the bridging course context. Extended open-style interviews were conducted with

two research candidates, which were recorded and transcribed. However, this data was very narrow and qualitative, and did not suit the started research aims. As the research aims had also shifted towards characterising disciplinary and institutional text types, and did not involve any kind of cognitive or psychosocial explorations of candidate reflections, those original interviews were not included in the analyses.

4.3 Analytical frameworks and processes

Analytical tools were chosen based on the need to address the ways in which presenters deployed semiotic resources construing academic legitimacy and knowledge. An SFL genre perspective was used to examine how the presentations were structured, how these structures compared with course materials, and how they were realised at the level of discourse semantics and lexicogrammar. Then, to investigate how candidates positioned themselves within their disciplinary community of practice, Appraisal Engagement and Attitude systems were used. Co-articulations, and couplings were noted.

4.3.1 Analysis of genre and textual organisation

Genre analysis involved identification of shifts in topic and register across the unfolding texts. This was difficult, and re-assessed at a number of points, as cues were not always obvious, even with access to slides. The following indicators were used:

- topic changes, as per Theme/Rheme patterning
- slide headings
- discourse or frame markers (most frequently, ‘So’)
- discernible shifts in register (i.e. across field and tenor).

Theme was designated as all verbiage up until the first ideational component of a clause. While some analyses consider all dependent clauses as Rheme, this thesis considers the Themes of both independent and dependent clauses, as well as any projected clauses, particularly given the nature of the data as spoken text. Clause complex structure is produced live by presenters and can involve false starts.

4.3.2 Coding density and sophistication

Lexical density and lexical sophistication were manually calculated. Lexical density (Hallidayan), i.e. lexical items per ranked clause, was calculated manually, rather than through lexical analysis software, due to the need to distinguish ranking from unranked/rank-shifted clauses. Lexical sophistication categories were customised in order to best display finer variations between the texts and to account for the high proportion of extremely low-frequency specialist terms in the data. The texts' specialisation meant that they were ill-fitting for analysis by freely available lexical profiling tools, which are limited by their corpora, such as COCA and AWL, and cannot possibly cover all specialist areas; therefore, the cumulative 'offlist' category was significant – 26% for one text – and included key topic words, technical terminology, acronyms, and names related to the project. Each profiling tool also had issues due to the technicality of the texts; for example, one automatically eliminated the 'D' from 'Vitamin D'. Thus, for the purposes of this analysis and consistency, overall lexical sophistication is designated here as the proportion of words not appearing on the most common 2000 English words (K1 and K2) as per VocabProfiler Compleat (Cobb 1997), based on a range of corpora for higher-level texts, BNC-COCA, available at https://www.lextutor.ca/vp/comp/. A slightly finer profile of sophistication is also offered where each text is divided into four word categories: K1 (very common); K2 (common); K3-6 (uncommon); and K7+ plus offlist words (very uncommon). Note also that the categories are divided per token, rather than type or item.

4.3.3 Coding transitivity and Appraisal resources

The categorisation of processes can be controversial and can be either more syntactically literal or syntactically conceptual (O'Donnell et al. 2010; Gwilliams & Fontaine 2015). This research erred on the side of conceptual.

The analysis of interpersonal language using a functionally oriented framework involves a degree of subjectivity. Coding engagement involved the following several steps. First, texts were divided into 'lines', which were manageable chunks of transcription, usually discrete clauses or clause complexes, but not always. As the presentations are at the nexus of spoken and written language, best attempts were made to chunk the language into meaningful sections for analysis. Each transcription was read carefully, and lexical items or span of text that realised

evaluation were coded and categorised. Coding was performed by a single researcher who had observed the presentations in person and was familiar with the contents. Coding was done bottom-up, starting with clause-level lexicogrammar and identifying patterns that emerged. Monogloss versus Heterogloss is coded as follows. The function and delivery of language was considered, as some instances which appear heteroglossic may be functioning monoglossically, or vice versa. Where sentences contained multiple instances of Heterogloss types, each instance was coded in sequence. Intonation and stress were noted and analysed where there was ambiguity or apparent conflict between intonation and utterance.

Table 15. Engagement types, based on (Martin & White 2005) unless indicated

Modality	**Type**	**Definition**	**Example**
Verbal	Monogloss	No other voices present	*Chronic rhinosinusitis is an important disease*
	Deny	Refutation	*…are **not** present in the sinus*
	Counter	Replacement	*They are **actually** very sick*
	Concur	Naturalises position as shared	*And **of course** the eisenophilic…*
	Pronounce	Presents position as convincing, refuting alternatives	*I'm sure **a lot of us know**…*
	Endorse	Presents position as credible	*She **shows**…*
	Justify	Overt reference to research data (Geng and Wharton 2019),	***As you can see {here}**, there's differences between the… **Therefore**,…*
	Entertain	Presenting a position as one of many possible	*It's **said** that… **Apparently**…*
	Acknow-ledge	No stance indicated	***Salmon et al**.investigated this phenomenon in the 1990s.*
	Distance	Indicates disalignment with position	*This was **thought** to be…*
Intonation	Contractive		Committed key (Halliday & Greaves 2008), i.e. Rise-Falling tone paired with declarative
	Expansive		Uncertain key (Halliday & Greaves 2008), i.e. Rising tone paired with declarative
Gesture	Contractive		Closed
	Expansive		Open / oscillating gesture

Analysis of attitude and graduation was done by identifying the instances and targets of inscribed, or overtly evaluative lexis pertaining to affect, judgement, and appreciation, using Martin and White's (2005) test of "*I feel* [affect]" vs "*it was* [judgement] *of them"* vs "*they see it as* [appreciation]" (:58–61). The texts were read carefully and repeatedly. Instances of Affect were identified in the texts and classified as un/happiness, dis/satisfaction, in/security, or dis/inclination, and Appreciation according to reaction, balance, and valuation; Judgement as esteem or sanction. Categories within valuation other than reaction and composition emerged from the data over the course of analysis. Attitude and Graduation types and examples are as follows.

Table 16. Attitude types

Type	**Subtype**		**Examples - positive**	**Examples – negative**
Affect: Emotions	Un/happiness		*thank, laugh, happy*	*sad, cry, hate*
	Dis/inclination		*want*	*don't want*
	In/security		*confident, assured,*	*anxious, restless*
	Dis/satisfaction		*attentive, satisfied,*	*yawn,, frustrated*
Judgement: people or groups	Esteem		*normal, lucky,*	*weak, timid*
	Sanction		*truthful, fair, caring*	*devious, immoral,*
Appreciation: non-human phenomena	Reaction		*interesting,*	*boring, tedious*
	Composition	*In/efficient*	*productive*	*time-consuming*
		In/complete	*detailed, systematic*	*limited, undertheorised*
		Un/clear	*elegant, precise, explicit*	*disorganised, tacit, obscure*
	Valuation	*In/significant*	*significant, key,*	*minor tangentially*
		Dys/functional	*healthy*	*deteriorating, broken*
		Costly/beneficial	*required, worthy*	*damaging, problem, outdated*
based on (Martin & White, 2005; Lee 2014; Hao 2015; Hao & Hood 2019)				

Table 17. Graduation types based on (Hood 2010a)

Type	**Subtype**		**Examples - upscaling**	**Examples - downscaling**
Force	Intensify		*very, hugely, !!!*	*somewhat*
	quantify	amount	*twelve per cent, large,*	*some*
		extent	*recently, in Aus, since 2010,,*	*Previously, in one study*
	enhance	rigour	*investigate, determine*	*look at, consider*
		frequency	*often, frequently*	*occasionally*
Focus	Valuer	specificity	*in particular, for example,*	*around*
		authenticity	*real, genuine, pure*	*kind of, sort of*
	fulfilment	realisation	*demonstrate*	*suggest, probably show*
		fulfilment	-	*try/fail to achieve, perhaps*

Table 18. Provoked invocation types, based on Don (2016)

	Type	**Example**
More direct	Lexical metaphor	*Text B: 'the osteoporosis demon'*
	Attitudinal double-coding, where one target invokes another	*Text D: 'this has caused a lot of concern for some of the practising physicians' - Affect of clinicians implies negative evaluation of referent*
	Scaling intensity/quantity	*Text A: 'The curve goes a bit down'*
	Denial and counter-expectancy where the rejected/replaced assertion implies +/-	*Text A: 'However, functional surgery is not the only option'*
Less direct	Contrast and comparison	*as indicated with countering, etc.*
	Intratextual references	*Text A: separate alignments of 'functional' and 'radical' surgeries*

Analysis of slides

The recording of Texts A, B, C and E captured slides; the recording of Text D did not capture slides. Slides of Texts A, B, C and E were reviewed and their compositions categorised according to Table 21.

Table 19. Slide modality

Dominant modality	**Category**	**Example**
Visual	Image (may have caption)	photograph, pathology image, cartoon
	Wordings and image/s integrated	diagram, figure, chart, imported table
	Wordings visually marked/arranged	Flowchart, smartchart, simple table, text effect
	Wordings plus images	Wording and images as distinct components
Verbal	Unmarked verbal text	Conventional headings, bullet points, blocks of verbal text

Table 20. Appraisal realisations in slides

Appraisal resource type	**Realisation**
Attitude	Affect, Judgement or Appreciation in verbal text Real/ideal as low/high spatial orientation Affect represented through images of faces
Graduation	Visual emphasis on an element/word – colour, bolding, size Exclamation marks Highlighting (circling etc.)
Engagement	Naming people/organisations "Non-integral" citation Questions and question marks Pop-up verbal text

Slides were also categorised according to the relationship with the spoken verbiage, according whether the slide elaborated, enhanced or extended the verbal utterance, following Roehrich 2016 (201-203). Similarly, the realisations of meanings across modalities was considered in terms of *reiteration*, *recommitment*, and *addition*.

Summary

This chapter has outlined the approach to the research, including the selection of the texts and ethics approval, data collection and transcription, and analysis of text features across modalities. Full participant consent forms, multimodal transcriptions, and transcriptions overlaid with coding can be found in the Appendices of this thesis.

Chapter 5 Fields and structures of the presentations

Overview

This chapter examines the genre and staging within the presentation texts. It recaps the presentation as a task, and outlines topic and focus. It then characterises how the overall social activity of the presentations is realised through a broad staging and a more detail staging of components. It then examines textual organisation and ideational representation within the stages of the texts. The introductions of two written proposals, B2 and C2, corresponding to the presented proposals B and C respectively, provide an interesting basis for comparison across categories of analysis.

The analyses show the deployment of distinct Set-up and Terminate stages, which differ in terms of register from the rest of the text. Two core stages were observed: an extended Research warrant, which gives the 'why' and the 'what' of the proposed research activity, concerning the exploration field, and a much shorter Procedure, which gives the 'what' and the 'how' of the proposed research activity, concerning the specialised field acting in service of the exploration field. An optional brief conclusion stage includes the significance of the proposed research activity. These stages did not necessarily align with the stagings proposed by the bridging course materials. The Research warrant macrogenre comprised the majority of each individual text and was built via deployment of a number of elemental genres. Most of the texts framed their proposed studies as filling knowledge gaps, using informing *reporting* genres; within those were second-order embedded genres *explaining* related phenomena, along with shorter bursts of explaining phases. One text deployed a *challenge* genre to frame the topic as one with two competing approaches. Processes were predominantly *relational* throughout, varying across stages; Themes were predominantly multiple, again varying across stages.

Analysis also show the particular construal of ideational and textual meanings jointly or independently across modalities. These differed according to the stage of the presentation. Slides structured textual meanings which were followed in speech, with differing levels of commitment instantiated across modalities.

5.1 Task and field overview

This section contextualises the presentations in terms of the contexts of task and field.

5.1.1 Task and guidelines

The doctoral research proposal presentation as a text 'presents' the research project proposed by the candidate in coordination with their supervisors. Presenters generated their presentation and slides independently according to available support and guidelines, which included bridging course resources, a faculty guidebook, and any consultations with disciplinary supervisors that may have occurred.

As described in Chapter 2, the bridging course offered general guidance on academic presenting; modelling of presenting and opportunities for rehearsal; and transferable genre and communication principles. The sessions in which these resources were given are summarised in Figure 16 below; details of each session are included in the Appendices. Course resources on communication and genre principles were focused on written documents. Transferable concepts that participants were prompted to extrapolate to other text types included: consideration of the audience; indicating alignment with key sources; organising information from general to specific; and explicitly stating the 'take home message' i.e. key thesis statement.

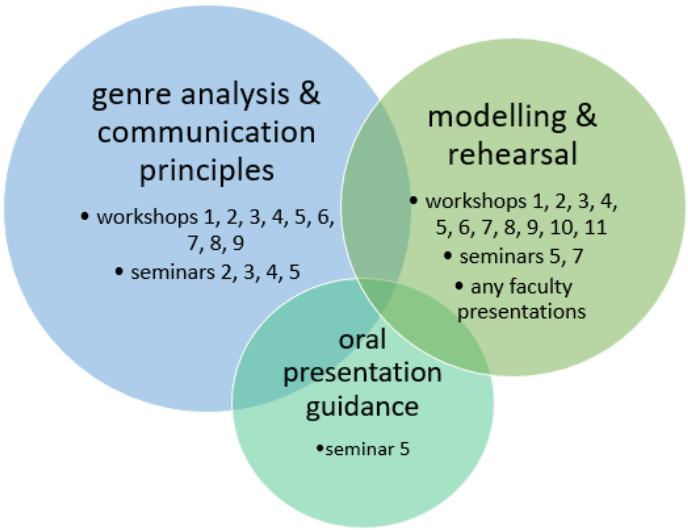


Figure 16 Summary of Bridging Program sessions pertaining to the research proposal presentation. See Appendices for session details.

The oral presentation seminar, Seminar 5, focused on register rather than structure. Neither structure nor slides were prescribed or templated. Bridging course participants were given general guidance along with some examples of poor slides (see Appendix 5), but no specific consultation on individual slide stacks within the course. Candidates were able to access an institutional slide formatting setting, with links provided, but this did not appear to be used by any of the participants.. Outside of the bridging course, a faculty handbook specified inclusion of *the background to the research topic*; *hypothesis and aims*; *methodology*; *and any preliminary results.*

5.1.2 Topic and study design

Each of the five presentations was delivered by a provisional doctoral candidate from within the Faculty of Health Sciences. As summarised in Table 22, the cohort represented five different disciplines: surgery (A); medicine (B); microbiology (C); nursing (D), and translational health (E). The presentations represented three types of study designs: experimental, comparing variables under controlled conditions (A, B, C); systematic review, meta-analysis based on other studies (D); and action research, iterative, reflective, participant-focused intervention (E).

Table 21. Discipline, topics, and study design

Text	Discipline	Topic title	Study design	
A	Surgery	*Chronic rhinosinusitis: pathology and surgical management*	Experimental	Quantitative
B	Medicine	*The role of dietary calcium on Vitamin D receptor mediated bone cell activities to enhance bone structure*		
C	Microbiology	*Staphylococcus aureus: stress response and its role in pathogenesis*		
D	Nursing	*Prognostic factors for chemotherapy-induced febrile neutropenia in adult cancer patients*	Systematic Review	
E	Translational Health	*Comorbidity, mental health, alcohol and drugs service needs for the Aboriginal people 12 years and older who live in [area]*	Participatory Action Research	Qualitative

The topics of the presentations spanned a range of entity types, at a variety of levels: anatomy, individuals, and society. The core range (dark grey) and secondary range (light grey) of each presentation is shown in Table 23. Text D, from Nursing, spanned the broadest entity range.

Table 22. Entities in presentation topics

	Anatomical				Individual		Social	
	molecule	cell	tissue	organ, system	behaviour	psychology	community	institution
A								
B								
C								
D								
E								

Regardless of the type of phenomenon of interest, presenters typically opened the body of their presentations at the macro-level, with the prevalence of the affliction (social level) and the degree of human suffering caused by the affliction (individual level), and then narrowed the field to the specific phenomena under consideration.

5.1.3 Slides

The dominance of verbal or visual meanings in slides varied from one presentation to another. Text A was the most heavily visual: most slides contained full-screen images or some combination of visual and verbal elements. Text E favoured writing on slides, often in full sentences, with only two slides incorporating marked visual grammar. Texts B and C tended to combine writing with image on each slide, and also had some writing-only slides. The slides for Text D were unavailable. Presentation duration did not correlate with number of slides – some presenters quickly flicked through a large number of simple slides, while others compiled more information into a single slide which remained displayed for a longer period. Contents are summarised in Table 24, on the following page. Overlap and reformulations of specific meanings are discussed later in this chapter.

In terms of writing–visual relationship, visual components were predominantly used to elaborate written linguistic meanings, either by providing examples, or clarifying details. Diagrams of molecular-level pathways (Texts B, C) included visual representation of the process of transcription, providing enhancement of manner. No images functioned to extend.

Table 23. Visual vs verbal dominance in slides

Dominant modality	Slide description	A	B	C	E	%Range
Visual	Image (may have minimal wording) e.g. full-screen photograph	9	0	0	0	
	%percentage	**26%**	**0%**	**0%**	**0%**	**0-26%**
Integrated	Wordings and image/s integrated together e.g. diagram	4	5	2	0	
	Wordings visually marked/arranged e.g. smartchart, flowchart	5	5	5	2	
	Wordings alongside images e.g. bulletpoints + small picture	4	0	7	3	
	%percentage	**38%**	**52%**	**74%**	**22%**	**22-74%**
Verbal	Unmarked verbal text e.g. heading and bullet points	11	9	5	19	
	%percentage	**32%**	**48%**	**26%**	**77%**	**26-77%**
	Total	34	19	19	22	19-34

5.1.4 Written-to-be-spoken: speech on the spoken-written continuum

Proposal presentations are planned, written-to-be-spoken texts which occupy a hybrid space between written and spoken language. This section characterises the texts in terms of spoken lexical density, spoken lexical 'sophistication', passive use, and personal pronoun use. Though these features are best addressed qualitatively in the context of the stages, each of which represents a distinct pattern of register variables, a broad summary provides an average as a conceptual anchor for skewing in any direction.

Lexical density

As discussed previously, written language is characteristically lexically dense but grammatically simple, while spoken language is characteristically grammatically intricate and less lexically dense. Lexical density is calculated as the number of lexical items (not tokens) per ranked clause. Within the presentation body, the lexical density of clauses ranged from **1 to 13**, and the average lexical density of each of the texts was **4 to 4½** lexical items per clause. This is reasonably consistent with postgraduate presentations characterised in previous studies (Zareva 2019). These averages represent an approximate halfway point between spoken language and written language, and the range shows that there were writing-like peaks and spoken-like troughs of lexical density, rather than a consistent density throughout. Those with higher peaks (Texts A and C) tended to skew more highly dense overall.

In alignment with previous work (Weissberg 1993), the most lexically dense clauses tended to cluster in the introduction.

Table 24. Lexical density

Text	Average LD	Mode LD	Maximum LD
Text A	4.5	4	13
Text B	4.0	4	8
Text C	4.6	4	12
Text D	4.1	4	9
Text E	4.0	4	7

Lexical variation and lexical sophistication are also noted. Lexical sophistication was determined as a mixture of high infrequent and offlist words, offlist indicating that the terms were so infrequent and highly specialised that they were not included in the online corpus. The measure for lexical sophistication, the proportion of total words **not** represented in the 2000 most common English words, ranged between 10% and 40%.

Table 25. Lexical density, sophistication, and passive constructions in texts

		Text A	**Text B**	**Text C**	**Text D**	**Text E**	*Mean*
	duration (min/sec)	15:50	20:00	18:35	14:35	17:45	*17:21*
	words per minute	174	194	156	202	243	*194*
	# Words (tokens)	**1639**	**2329**	**1728**	**1727**	**2595**	*2004*
	# Lexical words	866	1326	981	964	1393	*1106*
	# Clauses, ranking	192	331	213	235	348	*236*
	Passives	11	22	34	14	30	*22*
Density:	(Halliday 1985)	4.5	4	4.6	4.1	4	*4.24*
Sophistication:	% Words other than K1+K2	23	25	40	14	10	*23*

Personal Pronouns

Typical of spoken academic texts, the texts under consideration incorporated personal pronouns. Though the sample is small, higher frequency of personal pronouns correlated to the favouring of ‘I’; while those who used fewer personal pronouns tended to favour ‘we’. Here I have included the written texts (B2, C2) as a point of contrast with the presented ones (A, B, C, D, E).

Table 26. Personal pronouns in texts

Text	**Written**		**Presented**				
	B2	**C2**	**C**	**A**	**B**	**E**	**D**
n	0	3	30	29	42	52	57
%	0	.03%	0.2%	1.6%	1.6%	2%	3%
	Lower ←						→ Higher
Favoured form	n/a	plural (all)	plural	plural	plural	neither	singular

Deployment of personal pronouns shifted across generic stages: singular personal pronouns tended to occur in Set-Up and Terminate stages, and not in presentation proper; and plural 'we' over singular 'I' tended to be favoured when discussing procedure, despite the doctoral project's official status as a sole effort.

5.2 Purpose and Staging: anticipated procedure

The presentation represents a procedural genre, part of the process of research activity. While it shares much in common with its parallel proposal text and also *proposes* a research activity, it does not function to enable, to plan, nor to manage research activity. Rather it represents an **anticipated procedure**. The presentation simultaneously *persuades* the local research community that the speaker knows what they are talking about and knows what they are doing, by persuading them of the worth and feasibility of the proposed project.

The presentation *Set-Up ^ Body ^ Terminate* superstructure is expected. Set-Up and Terminate stages are discussed in a subsequent section of this chapter.

Labelled sections of the presentation body varied. All presenters included Introduction or 'Background', and Methods. Four presenters specified Aims; three specified Research Questions; two specified Hypotheses; and one included a separate Literature Review. Each of these stages contributed towards the enactment of one of two key subgenres: a Research warrant macrogenre, and a Procedure genre. In addition, two texts included a Conclusion. The staging sequence of the proposal presentations in the observed cohort can therefore be summarised as: *Set-Up^ Research warrant ^ Procedure ^ (Conclusion) ^ Terminate.*

Table 27. Staging components

Components	Macro/Genre
Introduction/Background Research Questions Research Hypotheses Literature Review	Research warrant
Research Aims Research Objectives Methods	Procedure
*Conclusion	

5.2.1 Establishing Worth and Feasibility

The Research warrant macrogenre is a persuasive metaphorical genre comprised of informing component genres (Hood, 2010a). In written research articles, the Research warrant constructs the rationale for the proposed research by evaluating the object of study, the field of existing research, and the purpose or focus of the proposed research. In the presentations, additional components were observed to contribute to the Research warrant: *questions* and *hypotheses*, and *literature review*. The role of the research questions or research hypotheses is to specify the missing disciplinary knowledge that the proposed research activity will supply; they clarify the purpose or focus of the proposed research activity. In the written proposal, the research questions are presented in their own section following the Introduction and can be reformulated into hypotheses if preferred or required by the disciplinary supervisors; they must be included in some form. However, in the presentations, questions and hypotheses were not strictly necessary components. Presented proposals could include:

- questions *and* hypotheses;
- questions *or* hypotheses; or
- *neither* questions *nor* hypotheses

In the presentations, then, the statement of research questions and hypotheses are seen to function as but one of several options for realising description of the presenter's current research. Similarly, the 'literature review' stage included in Text E is also considered to form part of the Research warrant, as an extension of evaluation of existing literature. This section was not constructed as a stand-alone literature review genre but as a descriptive report of aspects of the topic which were supported by various items of literature.

Aims, Objectives and *Methods* functioned collectively as a Procedure stage, similar to a Procedure genre, describing the purpose of the research and listing materials and steps required for its undertaking. Though the procedure in a proposal is tentative rather than retrospective, it is similar to the methods sections of published research articles (procedural recounts): by outlining how the research activity was/is to be undertaken, the writer/speaker persuades the audience that the research design is appropriate and that consequently the results can/will be trustworthy (Cargill and O'Connor, 2013). In the case of the doctoral research proposals, the Procedure also shows the audience that the speaker will be able to carry out the research activity. The functions and hierarchies are summarised in Table 26:

Table 28. Functions of staging components

Super-stage	**Stage: Purpose**	**Substage**	**Broad stage functions**
Set-Up			Opens the presentation as a turn; orients audience
Body	Research warrant: establishes worth	*Introduction, Background*	Rationalises the proposed research by a) reporting on the broad topic and specific focus; b) reporting on previous research; and c) describing the purpose or focus of the proposed research activity
		Questions, Hypotheses	Describes the missing knowledge that the proposed research activity promises to supply: clarifies c) above
		Lit. Review	Reports on items of research: extends b) above
	Procedure: establishes feasibility	*Aims, Objectives*	Describes the purpose of research activity
		Methods	Describes frameworks, materials, and steps necessary to undertake the research activity
	Conclusion		Reiterates the 'take home message' of the presentation, including significance of proposed research activity
Terminate			Closes the presentation as a turn

5.2.2 Persuasive skew

The proportion of Research warrant: Proposal was consistent across the texts, and significantly lopsided to favour Research warrant. The ratios are shown below:

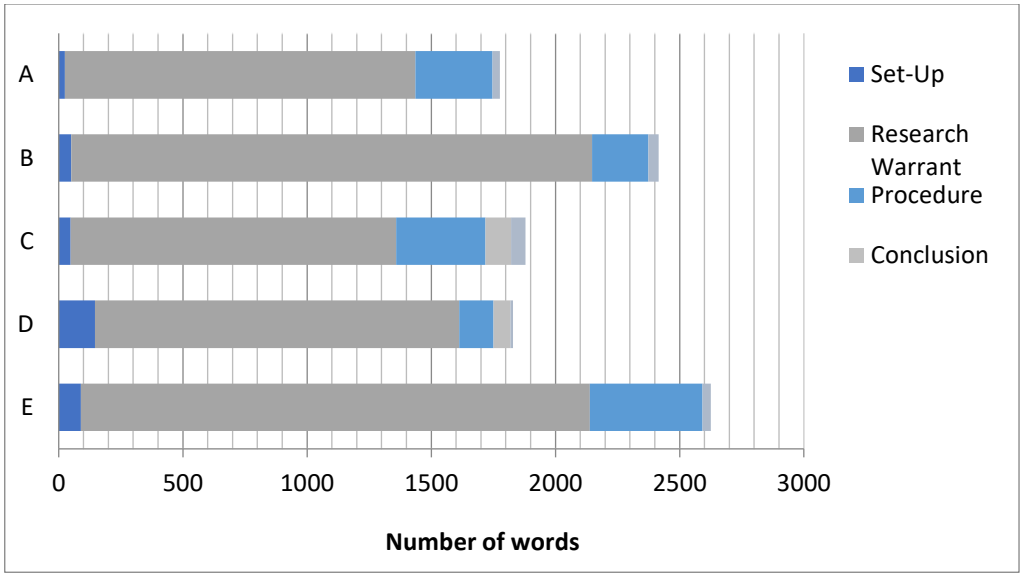


Figure 17. Lengths of macro- stages of presentations

The favouring of Research warrant in the texts may have simply been reflective of the stage of the project: HDRs have written a Literature Review, proposed methods, attended inductions and trainings, but not yet started, or only just started, the research activity proper. However, the ratio is inverted in the written proposal document produced at more or less the same time as the delivery of the proposal presentation. The figure below compares the Research warrant (Introduction, Hypotheses) and Procedure (Aims, Objectives, Methods) stages of the two parallel texts of the same author, presented text C and written text C2.

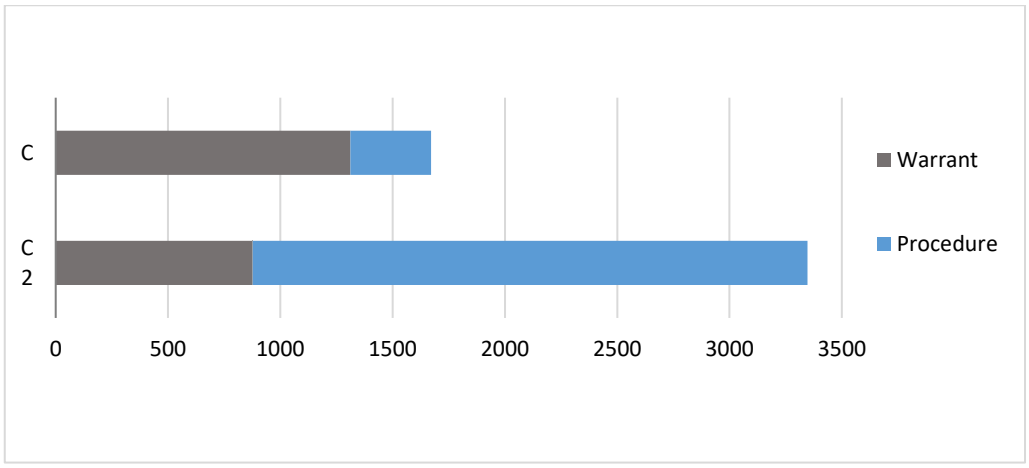


Figure 18. Lengths of macro stages of parallel texts

5.2.3 Stagings of each of the Presentations

The following section presents a summary of the broad stagings of each of the presentations. Each presentation delivered broad information about the topic, then narrower information about the specific focus, a review of previous research, and information about the aims and prospective procedures of the proposed project. This information was delivered through a series of informing genres. Elemental genres, including embedded genres, are shown in bolded font, and included Reports, Descriptions, Procedures, and Discussions.

Table 29. Staging of Text A

Staging (caps)	**Elemental genre (**bolded**)**: Field: *Subfield glossed (italics)*
SET-UP	d. *Greeting, topic statement*
RESEARCH WARRANT	**Descriptive Report**: Context e. *Phenomenon: affliction* f. *Symptoms* g. *Impact*
	Challenge: Topic of study h. *Position: FESS as routine treatment of affliction* **Descriptive Report** *of FESS* i. *Rebuttle: failures in particular cohort, alternative treatment* **Descriptive Report** *of (others') analysis* j. *Antithesis: RSS as routine treatment of affliction*
	Classifying report: Other studies k. *Phenomenon: approaches* *l.* *Approach #1: history, mechanism, metaphorical explanation* *m.* *Approach# 2: history, mechanism**,** specific evidence*
	Description: Own study n. *Area of interest, purpose*
PROCEDURE	Procedure: o. *Overall aim, tentative aims* p. *Specific aims* q. *Materials* r. *Statistical treatment* s. *Experimental intervention and purpose*
TERMINATE	t. *Thanking* u. *[Silence to elicit questions]*

Table 30. Staging of Text B

Staging	**Elemental genre (**bolded**)**: Field: *Subfield glossed (italics)*
SET-UP	v. *Greeting, topic statement, acknowledgement of supervisors*
RESEARCH WARRANT	**Descriptive Report**: Context w. *Definition - affliction* x. *Impact and prevalence* y. *Treatment/Prevention* z. *Key vitamin* aa. **Sequential explanation** *of metabolic pathway* • *Implications for role of factors*

	Descriptive Report – Topic of study
	• *Definition – tissue resorption/formation model*
	• **Sequential Explanation –** *broad process*
	• *Unknown mechanisms, unknown role of Vitamin D*
	• **Classifying Report:** *mechanism types*
	  • *Phenomenon - Mechanism types*
	  • *Mechanism 1*
	  • *Mechanism 2*
	• *Mechanisms at work*
	  • **Description** *of components*
	• *Implications for role of Vitamin D*

	Report: Other studies • *Phenomenon – models in previous research* • *Study 1* • *Study 2* • *Implications* • *Study 3* • *Implications*
	Description: Own study • *Research focus* • *Research question*
PROCEDURE	Procedure: • *Aims* • *Hypothesis/expected result* • *Steps and materials* • *Timeline*
TERMINATE	• *Thanking, inviting questions*

Table 31. Staging of Text B2 (introduction only)

Staging (caps)	**Elemental genre (**bolded**)**: Field: *Subfield glossed (italics)*
RESEARCH WARRANT	**Report**: Topic of study • *Phenomenon - affliction* • *Prevalence* • *Impact* • *Vitamin* • ***Descriptive Report** on recent research on Vitamin* • *Mechanism of Action*
	Report: Other studies • *Evidence* • *Knowns, Supplementation* • Conflicting studies • Recent advances • Gaps – mechanisms • Methodological considerations
	Description: Own study • *Research focus*

Table 32 Staging of Text C

Staging (caps)	**Elemental genre (**bolded**)**: Field: *Subfield glossed (italics)*
SET-UP	• *Greeting, topic statement, acknowledgement of supervisors*
RESEARCH WARRANT	**Report**: Context • *Phenomenon - pathogen* • *Prevalence* • *Impact* • **Classifying Report** *on notable subtypes*
	Report: Topic of study • *Phenomenon – subtype survival mechanism* • **Sequential explanation** *of stressor process*
	Report: Other studies • *Phenomenon – studies on stress mechanisms* • *Known mechanisms* • *Unknown aspects - subtypes* • **Report** *on potential candidate enzyme* • **Report** *on enyme regulator, including* **sequential explanation** *of mechanism*
	Description: Own study • *Research hypotheses*
PROCEDURE	Procedure*:* • *Aims* • *Aim 1 description and materials* • *Aims 2 and 3 description and materials* • *Steps*
CONCLUSION	• *Summary and significance*
TERMINATE	• *Thanking, inviting questions*

Table 33 Staging of Text C2 – (introduction only)

Staging (caps)	**Elemental genre (**bolded**)**: Field: *Subfield glossed (italics)*
RESEARCH WARRANT	**Report**: Topic of study • *Phenomenon - pathogen* • *Prevalence* • *Challenges* • *Subtypes* • *Mechanisms*
	Report: Other studies • *Phenomenon –research on response to stress* • *Known: enzyme class* • *Unknown: enzyme class in pathogen type* • *Previous studies on candidate regulator*
	Description: Own study • *Research focus*

Table 34. Staging of Text D

Staging (caps)	**Elemental genre (**bolded**)**: Field: *Subfield glossed (italics)*
SET-UP	• *Thanking chair, greeting, acknowledgement of supervisor substitute* • *Topic statement, presentation summary*
RESEARCH WARRANT	**Report**: Context • *Phenomenon: affliction* • *Incidence, treatments* • *Treatment side effects*
	Report: Specific topic • *Phenomenon: complication* • *Risk, prevalence* • *Severity, mortality* • **Consequential explanation** *of effects* • *Management* • *Risk and prognostication*
	Report: Other studies • *Previous work on risk/prognostication* • *Impacts*
	Description: Own study • *Focus of current research*
PROCEDURE	Procedure: • *Participants, risk factors* • *Materials* • *Comment on lack of further detail*
CONCLUSION	• *Summary and significance*
TERMINATE	• *Thanking, inviting questions*

Table 35. Staging of Text E

Staging (caps)	**Elemental genre (**bolded**)**: Field: *Subfield glossed (italics)*
SET-UP	• *Greeting, acknowledgement of supervisors, thanking* • *Topic statement*
RESEARCH WARRANT	**Orientation –** *summary of topic, aim of study*
	Descriptive Report: Context • *Phenomenon: cohort* • *Significance of cohort* • *Under-utilisation of healthcare resources* • **Factorial explanation** *of factors affecting health outcomes*
	Descriptive Report: Topic of study • *Phenomenon: affliction* • *Significance in cohort* • **Consequential explanation** *of impacts*
	Description: Own study • *General aim, approach, and ethos*
	Descriptive Report: Other studies • *Orientation, context* • *Describing aspects of topic and items of previous research*
PROCEDURE	Procedure: • *Theoretical approach* • *Specific methodology and steps* • *Materials (location, participants, tools)* • *Submission*
TERMINATE	• *Thanking*

5.2.4 Embedded genres

The Research warrants within the presentations comprised a greater amount and variety of elemental genres than has been observed in written research articles (Hood, 2010a). Presenters each began with broader topic information before reporting on the more specific topic of study: the kind of context that may be incorporated briefly in the initial sentences of a written article was slightly elaborated as its own report. Most presenters organised their introductions as a series of descriptive reports and descriptions; one text deployed two discussion genres and a description to construe the research warrant, as shown in Table 38 on the following page:

Table 36. Component genres in the Research warrants of the presentations

Field	Component genres				
	Text A	Text B	Text C	Text D	Text E
Topic	Report Challenge	Report Report	Report Report	Report Report	Report Report
Previous research	Report	Report	Report	Report	Report
Own focus	Description	Description	Description	Description	Description

The presenters also made use of second-order genre embedding. Within the reporting genres, presenters *explained* diagrams of molecular processes, and *reported* on subtypes of phenomena, and *explained* the consequences of disease. Within the discussion genres, the presenter *described* data which supported particular positions. These embedded genres did not comprise whole stages of the Introduction but formed parts of stages, for example an explanation as one item within the report, rather than as the entire stage within the report. These second-order genres included:

- Sequential Explanations of metabolic pathways (B, C)
- Consequential Explanations of affliction consequences (D, E)
- Reporting on data/evidence (A)
- Descriptive Report on subtype of phenomenon (C)
- Factorial explanation of causes of affliction (E)

Table 37. Embedded genres in the Research warrants of the presentations

Field	Component genres and EMBEDDED GENRES				
	Text A	Text B	Text C	Text D	Text E*
Broad context	Report	Report REPORT -EXPLANATION	Report REPORT	Report	Report EXPLANATION
Specific topic	Challenge REPORT REPORT	Report EXPLANATION EXPLANATION REPORT -EXPLANATION -EXPLANATION	Report EXPLANATION	Report EXPLANATION	Report EXPLANATION
Previous research	Report	Report	Report REPORT REPORT -EXPLANATION	Report	Report
Own focus	Description	Description	Description	Description	Description

Note that in Text E, the sequence was slightly different, as the description of the presenter's own anticipated research appeared before the descriptive report of other studies.

Presented Texts B and C contained multiple embedded genres, and second-order embedding where, for example, a Report on previous research contained a Report on an enzyme regulator which in turn contained a sequential explanation of the mechanism of action for that regulator. The parallel written proposals, Texts B2 and C2, contained no or little embedding within the Research warrant macrogenre. This suggests that the role of genre embedding relates in a large way to the needs of the live audience.

Table 38. Embedded genres in the Research warrants of presented versus written proposals

Field	Component genres and EMBEDDED GENRES			
	Text B Presented	Text B2 Written	Text C Presented	Text C2 Written
Broad topic/ context	Report REPORT -EXPLANATION	Report REPORT	Report REPORT	Report
Specific topic	Report EXPLANATION EXPLANATION REPORT -EXPLANATION -EXPLANATION		Report EXPLANATION	
Previous research	Report	Report	Report REPORT REPORT -EXPLANATION	Report
Own focus	Description	Description	Description	Description

5.3 Advised versus observed genre

We can compare the bridging course materials with the observed purposes and stagings of the presentation texts. While the bridging course articulated the concept of multiple communicative purposes for one text, the social purposes of the text as genre was not identified. The framing of 'Your purpose' suggests a more cognitive approach to text. Stagings in the bridging course did not align closely with observed stagings.

Purpose: close alignment

The persuasive purpose of the Proposal Presentation as a metaphorical genre was partially identified in the bridging course: *to present yourself as a researcher*. The bridging course also linked purpose to register – '*how should I sound to achieve my purpose?*' (see Chapter 2). There is perhaps tension here around the idea of adjusting one's register towards promotion in order to fulfil the metaphorical purpose of persuasion, versus persuading *through* the genre(s) of informing. The course prompts and observed purposes are compared in Table 41, below.

Table 39. Suggested versus observed purpose

Bridging course prompts regarding purpose	**Type of social purpose**	**Observed social purpose**
To involve the community *To elicit feedback*	interacting	- [fulfilled through Q&A session]
To inform the community	informing	reporting and discussing genres
To present your research proposal	persuading	research warrant macrogenre and procedure: to persuade the audience of the worth and feasibility of the proposed project
To present yourself as a researcher		Via research warrant and procedure: to persuade the audience of ones' competence as a researcher

Staging: minor inconsistencies

The bridging course's guidance on presentation structuring was unclear, but seems to generally suggest an *introduction* ^ *body* ^ *conclusion* position paper staging staging that is that of exposition or discussion genre. This was not in alignment with the observed stagings of the presentations, which were Research warrant ^ Procedure. A direct comparison is provided in Table 42. In the bridging course materials, the Set-Up and Introduction/Research warrant stages were not delineated/distinguished from one another, and a variety of terminology used. Not all texts included summaries, and no summary ended the presentation, as presenters offered significance and then deployed Terminate stages. Presenters did end their presentations quickly, with either a brief conclusion (summary with significance) plus a Terminate stage, or Terminate stage alone.

Table 40. Suggested versus observed staging

Bridging course staging guidance (see Appendices for relevant course materials)	**Observed staging**
Introduction/ Beginning/ Begin with an overview/ Tell them what you're going to tell them	Set-Up
	Research warrant
Middle/ tell them/ emphasise points	
	Procedure
Conclusion/ end/ Tell them what you told them/ end quickly with a summary	Optional conclusion
	Terminate

5.4 Ideation and structure within stages

5.4.1 The Research warrant

As in research articles, the Research warrant can be characterised in terms of two intersecting fields: the field of the topic or object of study (both broad and narrow), and the field of research. In health sciences, the object of study concerns the mechanisms and consequences of health afflictions. The field of research relates to both previous research activity on the topic, and the proposed research activity. These fields are associated with particular kinds of evaluation, and the specific couplings are analysed in more detail in Chapter 6. The fields within the Research warrant of the Health Sciences proposals can be further subcategorised. Presenters report on a number of aspects of the affliction of interest: the damage caused by the affliction, its consequences, prevention and treatment, its causes, and how it can be anticipated and overcome. The field of research relates to: broader and more specific knowledge attributed to others, named or unnamed; and a preview of the proposed research in terms of its focus, purpose, or research questions/hypotheses.

Relational clauses were dominant in the Research warrants, comprising 47 to 67 per cent of all process types, as presenters dedicated much time to defining and characterising phenomena. Material process clauses represented physical events related to the causes and consequences of the afflictions at the centre of the projects. Verbal and mental process clauses functioned to project disciplinary knowledge of the topic, for example '*The study showed that…*' or '*this is known to…*', and also to represent patient thought and utterances. Behavioural processes were absent from all but one of the texts (D). An overview of the proportions of clauses process types in the Research warrants of the five texts is given in Table 43. There were differences between presenters in the deployment of verbs relating to research

activity which contributed to the differences in process types. Research can be construed as cognition, perception, behaviour, speech, or as physical activity. Presenters tended to repeat the same choice of research verbs across the text, for example the behavioural processes used in Text D were predominantly 'looked at'. The use of mental process also tended to relate to research activity, but also were used as for deixis and as modals: '*and we can **see** here*' (Text A); '*and we all **know** that…*' (Text D).

Table 41. Processes in Research warrants –Relational and Material

	Text A	**Text B**	**Text C**	**Text D**	**Text E**
Total	102	153	98	110	175
Relational	66	77	56	58	82
%	67%	50%	57%	53%	47%
Material	15	55	20	28	35
%	15%	36%	20%	25%	20%
Behavioural	0	0	0	0	8
%	0%	0%	0%	0%	5%
Mental	11	3	12	14	23
%	11%	2%	12%	13%	13%
Verbal	9	13	5	7	5
%	9%	9%	5%	6%	3%
Existential	1	5	5	3	22
%	1%	3%	5%	2%	13%
Primary	Relational	Relational	Relational	Relational	Relational
Secondary	Material	Material	Material	Material	Material

Field: Talking about others

The research warrant spans three overlapping fields: the topic; other's research; and the current proposed study. Other's research was construed as: a participant in the role of carrier, doer, behaver, senser, sayer, or existent; as a circumstance; and/or given on a slide as a (non-integral) short-form or longform citation (Table 43).

Table 42. Construing other's studies: (elipsed) agents, existents, locations

Role		Example	Text A	Text B	Text C	Text D	Text E
Participant	Carrier /Token	*Which was an interesting study (Test E)* *This was based on research done in asthma (Text A)*	1	0	0	0	2
	Doer	*These studies were first conducted by… (Text B)* *They just study on one strain… (Text C)*	7	3	2	2	7
	Behaver	*A lot of people, especially doctors, have been looking into…(Text D)*	0	0	0	6	0
	Senser	*They decided to… (Text A)* *Knowing that…(Test A)*	5	3	0	1	0
	Sayer	*It was suggested…(Test A)* *This shows that… (Text B)*	5	6	2	1	2
	Existent	*There was a study…(Text E)* *…there's just one study…(Text C)*	0	0	2	3	1
Circumstance		*In the literature, there has been…(Text A)*	2	1	1	0	5
Citation on slide		*Nat Rev Rheum 2008 (Text B)*	9	4	4	n/a	7
	Primary		Cit	Say	Cit	Beh	Doer
	Secondary		Doer	Cit	(mix)	Ext	/Cit

References to previous research were overwhelmingly in broad terms ('studies', 'research done in asthma') rather than integrally cited, that is explicitly named. This aligns with previous studies.

5.4.2 Setting Up and Terminating

The main type of meaning foregrounded in Set-Up stages is interpersonal, rather than ideational. Here, a brief analysis of the fields within Set-Ups and Terminates is offered.

Set-Ups are everything that the presenter says before the start of the presentation proper. The field represented in these stages relates to the immediate context: people (the people present in the room; the people connected to the project); semiotic entities (the project topic; the presentation as a text); and instrumental entities, that is audiovisual equipment.

Set-Ups in the texts under investigation included various combination of the following components:

a. Thanking the chair
b. Identifying oneself, greeting, thanking the audience;
c. Acknowledgment of supervisors;
d. Stating the project title;
e. Outlining the presentation;
f. Articulating difficulties with equipment

Presenters were able to realise these meanings in speech, or on the slides, or both. The co-commitment of a component across both modalities speaks to its importance. These are shown below. Only two components were co-committed by all presenters: the topic title, and acknowledgement of supervisors.

Table 43. Instances of meanings across slides and speech in Set-Up

		Text A		Text B		Text C		Text D	Text E	
		Slide	Said	Slide	Said	Slide	Said	Said	Slide	Said
Intpsnl	Thank chair							X		
	Identify self		X	X	X	X	X	X	X	X
	Greet or thank audience		X		X		X	X		X
	Acknowledge supervisors	X	X	X	X	X	X	X	X	X
Idtnl	**Give topic title**	X	X	X	X	X	X	X	X	X
Txtl	Outline talk							X		
Intpsnl	Articulate equipment struggles		X		X					

Set-ups tended to be accompanied by a single title slide, although one text (E) split the stage across two. Speech was rapid and intonation neutral, with multiple Theme deployed. An example of slide and intonation is shown below:

Slide redrawn and partially redacted	**Transcribed text**
	//3 Um / Good morning ladies and gentlemen /1 and thank you for coming //1 Um / I'm going to present / my research proposals /with the title of //1 'The role of dietary calcium / on Vitamin D receptor mediated bone cell activities / to enhance bone structure'. //5 This project is supervised by Professor [redacted] /and co supervised by [redacted]. //1 Forgot the pointer.

Figure 19. Co-occurring slide and text in Set-Up

The bookend stage to the Set-Up is the *Terminate* stage, which signals the end of the presentation and the transition to the Question and Answer session. Terminates were rapid, at about 10 seconds each. Terminates involved a) thanking, b) acknowledging supporters, and c) inviting questions. Component instances are identified below. General thanking was the most co-instantiated meaning.

Table 44. Co-construal of meanings across slides and speech in Set-Up.

		Text A		**Text B**		**Text C**		**Text D**	**Text E**	
		Slide	Said	Slide	Said	Slide	Said	Said	Slide	Said
Interpersonal	Thank audience			X		X	X	X	X	
	Thank supervisors		X	X	X		X		X	X
	Thank supporters		X				X		X	X
	Invite Questions				X	X	X	X		

5.4.3 Procedure stages

Procedure stages in each of the texts construed a distinct field to that of the Introduction/Research warrant stages, representing specialisation, rather than exploration. The procedure stages of the presentations comprised from around 10% (Text D) to 20% (Text C) of duration of the presentations. These were typically labelled as Methods and occasionally also as Aims and Objectives in the accompanying slides. Clause processes types in the Procedure stages skewed more towards relational and material, with no existential process clauses.

Table 45. Process types in Procedure stages – some divergence

	Text A	**Text B**	**Text C**	**Text D**	**Text E**
Total	18	34	32	13	28
Relational	7	15	7	8	13
%	38%	44%	22%	62%	46%
Material	3	9	15	1	8
%	16%	26%	47%	8%	29%
Behavioural	4	0	0	0	4
%	22%	0%	0%	0%	14%
Mental	3	6	3	2	0
%	16%	18%	9%	16%	0%
Verbal	1	4	6	2	3
%	.5%	11%	19%	16%	11%
Existential	0	0	0	0	0
Primary	Relational	Relational	Material	Relational	Relational
Secondary	Behavioural	Material	Relational	Mental,Verbal	Material

The behavioural processes utilised in Texts A and E were used in different ways. Text A used 'look at' metaphorically as downscaled, generalised research activity that could have been otherwise construed as investigate/analyse/examine, whereas Text E used 'listen to' much more literally, as a specific methodological step in which researchers record participant comments.

The Procedures offered markedly abridged summary of the actual research processes involved. For example, in Text A, '*and then introduce the radical surgery*' involves the performance of surgery on a live human being. Presenters gave overviews of aims and processes, and sometimes details of specific equipment, samples, or techniques. Though the proposed research methodology is that which underpins an individual candidate's thesis, rather than a collaborative project, presenters tended to use 'we', rather than 'I'.

Aims and broader objectives give the 'purpose' of the procedure, contextualising the methods. 'Methods' are characterised as the 'equipment and steps' stage of a procedure. Equipment and steps were organised according to purpose or experiment, rather than listed in procedural genres which function to enable research, and were of course tentative rather than directive, for example in Text A: *'... and perhaps we might use a special stain….'*. Presenters also clarified key terms, as in Text B: *'We will be working on the OSVDR, the one that have increase VDR activities in mature osteoblasts. Mature osteoblast is the cells that are responsible for mineralising bone.'* Some texts also integrated references to other research in the Procedure: '*Then, using immunohistochemistry, we'll look at various markers for eosinophilic infiltration; these include the ECPs and MBPs and EDN, which have been correlated with disease severity before, and more of these were done in asthma research.* (Text A)*;'…the previous study by Baldock et al. in 2000 are using albinian mice - that's white mice, and what we have is a black mice'* (Text B).

The Procedure of Presentation D was incomplete, containing purpose and some description of materials, which for a Systematic Review included types of studies and variables for consideration, and then an apology in lieu of further detail.

5.4.4 Conclusion stages

Presentations C and D also include a short Conclusion. Both recapped main points of the Research warrant and stated the significance of the research. Conclusions represented a macroNew, which develops and extends the proposed research into the broader field of professional practice, rather than ending on procedural details. The conclusions are compared in the table below:

Table 46. Components of conclusion stages

(micro)field		Text C	Text D
Orientation		*In summary, so I just want to pick some point some important point here.*	*So to summarise, the significance of this review will be that*
Recap of research warrant	Topic significance	*That first, staphylococcus aureus nowdays very important pathogen for humans, because it develop to acquired multi-antibiotic resistant strain. Develop to various lifestyles, such as biofilms and SCV.*	*chemotherapy -induced febrile neutropenia can lead to life-threatening infection and this is the real clinical factor that we face every day in a hospital*
	Other research	*And it needs to survive and grow under stressors but very little is known about the defence system due to stress. And biofilm and SCVs can possess specialised pathway for stress response.*	-
	Own research	*So for my project we will provide new understanding about the system pathogenic bacteria use to defend against stress,*	*and because of this I believe the significant prognostic factors help with the development of more accurate and reliable prediction tools*
Significance		*and may lead to the new strategy for managements of diseases.*	*which will eventually help guide clinical decision-making making patient management more effective and safe.*

5.5 Theme and hyperTheme

Theme patterning HyperThemes displayed on slides controlled the focus of the stage, and of embedded genres and phases within stages. HyperNews often functioned as hyperTheme for the next segment of meaning.

5.5.1 Thematic structuring of information

Theme type distribution across the spoken utterances was consistent. Set-Ups and Terminates markedly favoured Interpersonal Theme, reflecting their interactive register; within the more writerly presentation proper, Theme tended to be Topical or Topical/Textual. Theme moved from predominantly Topical to predominantly

Textual the longer the text went on; Research warrants were characterised by very written-like, dense and long clauses with Topical Themes, whereas Procedures and Conclusions tended to be lists of steps connected by addition, for example '*So we use…. And use… and after that use…*' (Text C). One presentation, Text D, strongly favoured Multiple Theme. Theme types are summarised below:

Table 47. Verbal Theme types across the texts

Stage	Type	**Text A**	**Text B**	**Text C**	**Text D**	**Text E**	**Dominant Theme type**
Set-Up	Topical	1	1	5	2	4	*Interpersonal*
	Multiple	3	6	2	10	5	
Research warrant	Topical	63	115	64	75	126	*Topical*
	Multiple	60	72	63	85	84	
Methods	Topical	10	17	14	4	21	*Topical and Textual*
	Multiple	12	15	19	13	20	
Conclusion	Topical	-	-	0	0	-	*Textual*
	Multiple	-	-	8	6	-	
Terminate	Topical	0	0	0	1	0	*Interpersonal*
	Multiple	4	4	5	7	3	
Total		153	230	180	203	264	
% Topical		48%	57%	46%	40%	57%	*Multiple*
% Multiple		52%	43%	54%	60%	43%	

Theme progression structures were varied across and within each text. Phases of describing and explaining involved chunks of parallel and linear theme progressions, shown overleaf. Procedures tended to involve split progression, with Aims numbered and then elaborated, e.g. '*We have three aims here. For Aim 1… For Aim 2… For Aim 3…*' (Text C). Linear progression was preferred for sequential explanations. Reference to slide image components was also frequently Thematised, as in Text A, which named parts of the slide via relational process clauses, moving from more contextualised ('this') to less contextualised ('a diagram of the sinuses'/'the ostiomeatal complex'):

Slide image	Linear (R→T) Theme progression

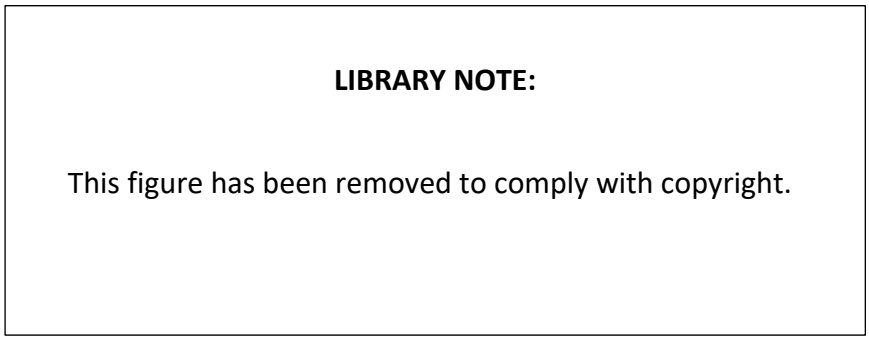


Figure 20. Linear Theme reporting phase in Text A

Presenters unpacked Rhemes linearly until a satisfactory level of contextualisation for the (mixed) audience was reached. For example, in Text B:

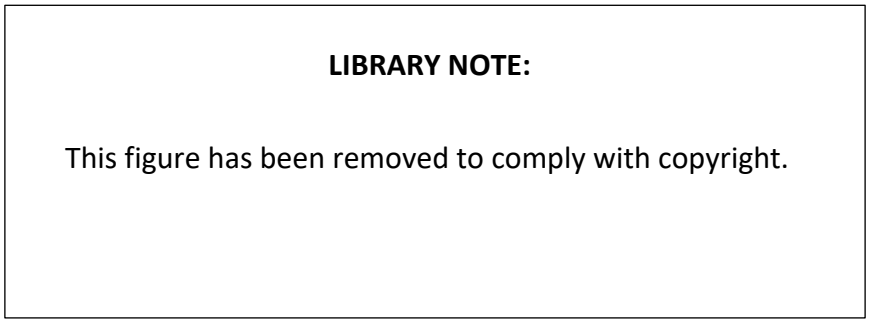


Figure 20. Rheme-to-Theme unpacking

5.6 Multimodal construal of meaning

5.6.1 Textual and Ideational meanings across modalities

Different meanings were instantiated across each modality. Speech tended to reformulate slide contents: predominantly, presenters picked up the content anchored in slide dot points or images, and 'interpreted' it for the audience, extending noun phrases out into full clauses, reformulating slide elements and vectors into verbal clauses, and perhaps adding commentary. Textual organisation of slides and speech was closely matched, usually in top-down orientation from

hyperTheme to hyperNew. Figure 21 below shows a segment of slide/speech multimodality exhibiting reformulation in Text B (whole phase in Appendices).

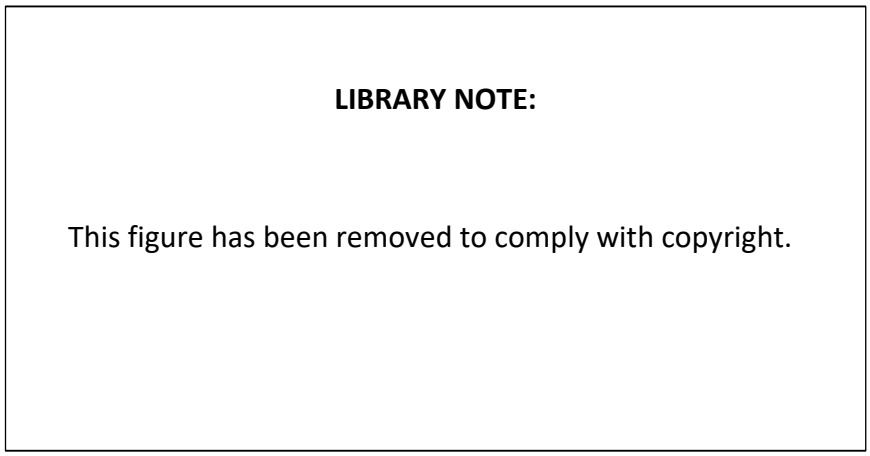


Figure 21. Explaining a process: visual to verbal

This analysis also shows the coupling of gaze with engagement formulations: monogloss is reinforced by direct gaze into the audience, and dialogically contractive heterogloss involving a sourced diagram involves gaze towards the source; the following chapter shows that monogloss and dialogic expansion tends to be coupled with direct gaze towards the audience.

5.6.2 Recitation and reiteration

Recitation of slide text was rare in all but one text. Predominantly image-based slides necessarily preclude recitation: in Texts A, B and C, the incorporation of noun phrases, prominent images, and few full sentences (if any), meant that it was impossible for slides to be recited verbally. In these presentations, the relationship between speech and slides was predominantly one of reformulating noun phrases or image elements as clauses, as shown in the example from Text B on the previous page, and the one below, from Text A:

Displayed Slide	**Speech**
Chronic Refractory Rhinosinusitis 	*So, refractory chronic rhinosinusitis, ah my question ultimate will be 'Why do patients fa- these patients fail surgery and how can we better identify them?'*

Figure 22. Slide/speech relationship in an extract from Text A

In this extract, the Theme is reiterated across both slides and speech, followed by a question mark visual as a textual discourse marker signalling an impending question, co-occurring with spoken ideational declaration of research focus, which the presenter glossed as his 'ultimate' question.

In contrast, in Text E there were frequent instances of full sentences displayed on slides. As shown earlier in this chapter, the slides of Text E were predominantly verbal-only (19/22), with only occasional incorporation of visual elements in a handful of slides (5/22). In speech, Text E involved large amounts of spoken recitation, and consequently relatively much less expansion and reformulation. The close match between the ideational and textual meanings in slides and speech created a rhetorical effect of the slides functioning as cues for the speaker. An extract of slide/speech combination below, Figure 23, shows a typical coordination of meanings between slides and speech in Text E.

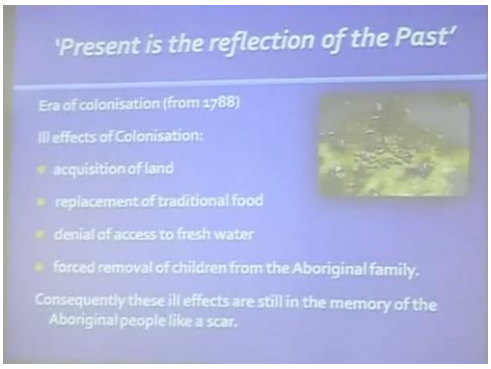
Displayed Slide	Speech
	[hTh] *"If we want to know about the present condition, it's worthwhile looking at the past.* *In the past during the 1988 most of the country had colonisation and Australia is one among that. Because of colonisation the… it has two impacts; one was positive where the whole conti-nation was developed in an international arena; at the same time it also affected people who were living in the land of Australia. Acquisition of land happened; replacement of traditional food; denial of access to basic needs; forced removal of children from the Aboriginal families.* [hNew] *All these things right from the past has got an influencing effect on the health of the- the Aboriginal community."*

Figure 23. Theme pattern reiteration

We can see that, as expected, the textual organisation is reiterated across slides and speech, from the concept of the relationship of present to past (hyperTheme) to narrower implications in the context of Aboriginal communities (hyperNew). We can also see the high degree of matching content. Over the course of the segment, the presenter predominantly recited and reformulated slide meanings, repeating and shifting meanings but adding relatively little. This is mapped in the Table below:

Slide verbals	Speech		
	Recitation	Recommitment: reformulation	Extension (addition)
		Noun phrase made into clause	Paraphrase	
'Present is the reflection of the past'			*If we want to know about the present condition, it's worthwhile looking at the past*
Era of colonisation (from 1788)		*In the past during the 1988 most of the country had colonisation*	
Ill effects of Colonisation			*and Australia is one among that. Because of colonisation the… it has two impacts; one was positive where the whole conti-nation was developed in an international arena; at the same time*
Acquisition of land *Replacement of traditional food* *Denial of access to fresh water* *Forced removal of children from the Aboriginal family.*		*it also affected people who were living in the land of Australia. Acquisition of land happened; replacement of traditional food; denial of access to basic needs; forced removal of children from the Aboriginal families.*	
Consequently these ill effects are still in the memory of the Aboriginal people like a scar.			*All these things right from the past has got an influencing effect on the health of the Aboriginal community*

Figure 24. Commitment and recommitment of meanings in slide and speech

In terms of semiotic division of labour, therefore, the speech largely echoed slides, limiting its unique contribution; multimodal affordances thus remained to a significant degree untapped.

Interestingly, the use of a quote for hyperTheme on this particular slide is one which opens up dialogism, and is a marked feature that tends to be seen in humanities discipline texts rather than in health sciences texts. In addition, the interpersonal meanings around 'colonisation' shifts attitudinal charge from negative on the slide ('*ill effects'*) to positive and mildly negative in speech ('*positive'* and '*affected'*), and around 'consequences' from negative on the slide ('*scar'*) to neutral in speech ('*effect'*). Engagement and Attitude are examined in more detail in the following chapter.

5.6.3 The nature of gesture in the texts

Gesture was a significant part of meaning in the presentations, across the metafunctions. Gesture functioned to organise information: gestural beats, like intonation stress, emphasised parts of clauses, and were ubiquitous across the presentations; pointing gestures highlighted information, linked meanings across modalities, and built cohesion as the text unfolded. Other kinds of gesture – miming, or iconising – related more to ideational and interpersonal meanings. The interpersonal metfunction of gesture is examined in more depth in the following chapter. A broad overview of gesture, delineated into *beats*, *pointing*, and *other*, is offered below, and shows the ubiquity of gestural beats, which often overlapped with other gestures such as pointing. Full documentation of gesture can be found integrated with presentation transcriptions in Appendix 1.

Table 48. Borad gesture types deployed throughout texts

(see Appendices. Highest frequency across corpus highlighted. Does not account for stage duration).

Stage		Text A	Text B	Text C	Text D	Text E
Set-Up	Beats	-	-	-	**24**	3
	Pointing	1	-	-	**3**	1
	Other	1	-	-	**15**	-
Research warrant	Beats	135	**273**	131	199	161
	Pointing	53	**66**	60	19	58
	Other	12	27	12	24	**67**
Procedure	Beats	30	29	56	30	**71**
	Pointing	9	3	22	4	10
	Other	4	6	**27**	6	22
Conclusion	Beats			**18**	1	
	Pointing			1	**16**	
	Other			2	-	
Terminate	Beats	-	-	**3**	-	**3**
	Pointing	1	1	**5**	-	-
	Other	-	-	**2**	-	1
	Total beats	165	302	110	253	227
	Average beats per minute of text	10	15	6	**18**	13
	Total pointing	64	70	88	42	69
	Average points per minute of text	4	4	**5**	3	4
	Total other gesture	17	33	43	45	90
	Average other per minute of text	1	2	2	3	**6**

The overview presented here shows that the type and frequency of some kinds of gesture varied markedly between presenters; that the frequency of pointing was fairly consistent from one presenter to another; and that presenters varied in terms of their deployment of gesture across the beginning, middle, and ending of their presentation. Generally, pointing tended to occur most frequently within the Research warrant, correlating to the explaining genres. Set-Ups and Terminates tended to be restrained in terms of gesture, though Text D was a notable exception.

Gestural beating correlated to written/speech continuum: beating was most minimal in the most dense, most lexically sophisticated, and most impersonal text, Text E; and more frequent in the texts which deployed more common lexis and singular first-person pronouns, and which were less lexically dense.

There was variation between presenters in terms of the strength or exuberance of gesticulation, which is not reflected in the raw counts above, which combines both ‘weak’ and ‘strong’ beats (delineated in analysis available in Appendix). Notably, in Text B, the presenter clutched a set of notes, and beat gestures were mainly

performed through head-nodding; other presenters tended to beat with their hands or forearms. Nor does the analysis above distinguish between types of non-beat and non-pointing gesture; these are instead considered case-by-case as they relate to unfolding patterns of argumentation, further in this chapter.

5.7 Summary

This chapter set out to characterise the generic nature of a research proposal presentation, including stages and intrastage structuring. The chapter also looked at the ways different kinds of meaning converged across modalities, and the coordination of meanings across slides and speech. The function of a proposal presentation is to present the parallel paper, the research proposal. Both the written and presented proposals represent an evaluative, persuasive genre. All texts involved lengthy Research warrants and a smaller procedure which summarised the methods. Set-Ups and Terminate stages were interpersonally oriented and embedded the entire body of the presentation within its social context. The introduction macrogenres within the presentations gave information about the topic and previous research, leading to the focus of the present proposed research. The embedded genres serve both layers of function in the presentation: talking an audience through a molecular activity sequence or a pathology slide is an effective strategy for persuading an audience that the presenter knows what they are talking about. Overall, the observed presentations had relatively little procedure. While the purpose stages of the procedures could be more detailed in some presentations compared to others, across all five of the presentations the steps stages of the procedures tended to be very densely summarised, with three years of prospective work packed into just a few sentences. At all levels, the presentations demonstrate 'zooming in'. Phases of reporting, explaining and describing occurred within larger segments of stages as presenters zoomed in on phenomena that required explaining for the audience. The construal of textual meanings across modalities was largely consistent; in terms of ideation, meanings on slides in Texts A, B, and C were expanded and reformulated by spoken language, whereas in Text E direct recitation was relatively frequent, with speech closely mirroring slide contents.

Chapter 6 Patterns of Evaluation

This chapter explores patterns of the interpersonal phenomena of Engagement, Attitude, and Graduation within the presentations. It also provides comparison of interpersonal phenomena to the written parallel texts were they are available.
In terms of engagement, predominantly propositions were formulated as contractive heterogloss. This is connected to the generic purpose of the texts as presented doctoral research proposals; presenters spent much of the time establishing background information, with comparatively little time spent on discussion of other literature. Frequent disclaim resources functioned to clarify information, bringing the audience more closely into alignment with the speaker's position in the context of densely technical and highly cognitively challenging content. In terms of citation, presentations frequently presented data from other studies as a basis for explanation of topic phenomena, indicating endorsement of others' data; the synergy of acknowledgement formulations on slides and contractive spoken formulations subsumed the expansive citations into contractive formulations, turning 'acknowledge' into 'endorse'. In the written Introductions, acknowledgement was deployed in the form of predominantly non-integral citation.

Attitude and subtypes of Appreciation are analysed within the presentations under investigation. One notable feature consistent across the texts is the saturation of Set-ups and Terminates with Affect. Within the presentation proper, the majority of the attitudinal work of the presentations is done in the introduction, where presenters favoured Valuation. Patterns of Attitudinal deployment, and Graduation, are identified. A frequent Attitudinal pattern observed in the texts was the recasting of Attitude from negative Appreciation, Affect or Judgement into positive Appreciation.

6.1 Engagement patterns

Monoglossic and contractive formulations indicate high authorial investment in a meaning; expansive formulations lesser investment, and openness to other voices. This section examines the deployment of monogloss versus heterogloss; the deployment of particular heterogloss formulations; citation; and then characterises patterns of engagement across the Research warrant of each of the presentations. Overall, in the presentations under observation, spoken language was overwhelmingly formulated as either monogloss or contractive heterogloss, with

presenters using notably high frequencies of *deny* and *counter*, which are analysed in some detail. In terms of citation, slides frequently cited other sources: the cumulative multimodal effect of acknowledgement formulations on slides and contractive spoken formulations subsumed the expansive citations into contractive formulations, turning 'acknowledge' into 'endorse'. In the written Introductions, texts B2 and C2, extensive acknowledgement was deployed, predominantly in the form of non-integral citation.

A full analysis of Engagement resources deployment can be found in the Appendices.

6.1.1 Speech: monogloss and contractive heterogloss

In speech, the proportion of monoglossic to heterglossic formulations was variable across stages, but overall was monogloss and contractive heterogloss. Set-Ups and Terminate stages were notably dialogically expansive, albeit superficially, deploying ritualised greetings and in doing so setting an interpersonal key for the presentation. Within this stage, a range of formulations were observed. Introducing one's topic, for example, negotiated a cline of modality – indexing formality rather than certainty – as shown below:

Table 49. Contraction/Expansion in announcing topic in Set-Up

	Transcribed Text	**Text**
More contractive	*The topic is…*	C
	Looking at my topic, the topic of my study is…	E
	So today my topic will be on…	D
More expansive	*I'm going to present my research proposals with the title of…*	B
	[my thesis] I think will revolve around…	A

Overall, the engagement strategies deployed around the focus of the proposed research were surprisingly contractive, with frequent use of disclaiming formulations, which are explored further below. Questions, which are inherently heteroglossic, were surprisingly not always present. Two presenters did not include questions, instead presenting the research focus as a blend of contractive heterogloss and monogloss. Those that did include questions often framed questions as projection, and therefore as more contractive, rather than expansive. A summary of dialogism in this phase is offered in the table below:

Table 50. Monogloss and Hetergloss types in one phase of the research warrant

	Types	Instance	Text
More contractive	*Monogloss* *Counter*	*So this is our study which we going to analyse or assess the needs comorbidity needs of the Aboriginal community to stop the runaround getting into different services, rather we'll bring that those services under one umbrella so that their access of finding these services will be simpler*	E
	Justify Monogloss	*So, from the background, AKR and NmlR, we have two hypotheses. The first is that NmlR in Staphylococcus Aureus plays a role in the defence against aldehydic base stress and it has a new arrangement and is two target that is AKR and HysA. So, HysA is one of the spreading factor help Staphylococcus Aureus in invade host by degrading the connective tissue. and the MERR-like operator promoter is upstream of this MRSA. And the second hypothesis here, that's related to the biofilm and SCV formation, that is, clinical isolates may possess specialist pathways for stress response, and this will determine their lifestyles.*	C
	Counter *Monogloss*	*So because of this I'm actually looking at way to identify the most significant risk factors that will help me in to understanding what risk factors for each group of patients so that it will be more reliable in terms of stratification. So my proposed systematic review will be one of prognostic factors predicting the clinical outcomes in this group of patients with this condition and I will further subanalyse between high-risk group and low-risk group and I will also differentiate between oncology and haematology patients*	D
More expansive	*Acknwldge Entertain Monogloss*	*And here comes the argument: [projected question]. And who are these patients which we can select who would benefit from radical surgery versus the functional? So, my question ultimate will be [projected question]*	A
	Deny + counter Entertain Monogloss	*So, an adequate calcium level is not just the main idea of the whole bone remodelling process. If so, how the calcium vitamin d and vitamin D receptor interacts in bone remodelling and what is the mechanism? This is the one that we are trying to identify by means of mouse models that will elucidate the mechanism underlying bone remodelling process. In order to investigate the role of the dietary calcium in vitamin D receptor in vitamin D receptor mediated activities in bone formation cells, this research aim to answer these following questions. The one is the first one is [projected question]*	B

6.1.2 Anticipating the audience: clarification, disclaiming, and questioning

Three linguistic patterns adjusted the pitch of the presentation for the audience in the room, contributing towards engendering the positionings of presenter relative ot the audience, and to the degree of interactivity negotiated by the text: parenthetical clarification, disclaiming formulations, and rhetorical questioning.

The most intensely dialogic of these patterns was presenters' clarification of certain technical concepts in parenthetical asides, offering quick glosses for a general/outsider rather than expert/insider audience. These instances were clarification, rather than the much more common forms of elaboration which offer an example or subcategory of the term. For example, in Text A, the presenter

clarifies the meaning of 'post-operative survival': *'radical surgery in this group offered better post-operative survival, as in a lesser risk of revision surgeries.'* Such clarification both anticipates and construes that the audience might not know that *post-operative survival* relates to the success of a procedure rather than to literal survival. The presenter's expert status is bolstered. In addition, it draws attention to the term, invoking upscaled Force. A summary is given below:

Table 51. Instances of spontaneous clarification of technical terms

Text	**Technical term clarified**	**N**
A	*refractory; post-operative survival; irreversible disease; remodelling*	4
B	*age-related; osteoclast; resorb*	3
B2	-	0
C	-	0
C2	-	0
D	*duration degree*	1
E	-	0

Another pattern which also dialogically negotiated the audience and engendered a sense of genuine interactivity and spontaneity was the use of engagement formulations which functioned to *deny* or *counter*. Disclaiming formulations are highly dialogic, explicitly clarifying anticipated gaps in audience knowledge, and realising a less formal register. Negation and countering are common in spoken texts, and much less so in published academic literature. In the texts under consideration, deny and counter formulations were often paired together, which served to invoke upscaled Force of the utterance, for example: *'… it's affecting not* [deny] *only* [counter] *in developed country but* [counter] *also in developing country…*' (Text B). This included formulations where the counter was elipsed, for example: *'…vitamin D is not* [deny] *just a vitamin, it's a hormone'* (Text B).

In the presentations, both Text B and Text C contained deny+counter formulations in the Research warrant drawing attention to the scale of the topic which were not included at all in their written equivalents.

Deny formulations were also more intense and simplified in terms modality in the presented texts, as opposed to a more nuanced modality in the spoken texts. For example, in Text C/C2, a diplomatic written counter formulation becomes a blunt spoken deny formulation:

'*There's* ***no understanding*** *about how Staphylococcus Aureus overcome this reactive aldehyde'* (Text C)

'***While*** *it is known how S.aureus responds to N.O. stress and oxidative stress,* ***very little is known*** *about how it reacts to aledhydes'* (Text C2)

Instances of disclaim formulations in each of the presented texts and the Research warrant stages of the written texts are summarised below:

Table 52. Disclaim resources deployed in each of the texts, across each stage

Stage	Type	**Text A**	**Text B**	**Text B2**	**Text C**	**Text C2**	**Text D**	**Text E**
Set-Up	Deny	0	0		0		1	0
	Counter	0	0		0		1	0
Research warrant	Deny	11	13	4	3	2	8	14
	Counter	11	17	6	4	2	23	14
Methods	Deny	1	0		0		1	2
	Counter	0	0		0		4	2
Conclusion	Deny	-	-		0		0	-
	Counter	-	-		1		0	-
Terminate	Deny	0	1		0		0	1
	Counter	0	0		0		0	1
Total Deny		12	14	/	4	/	10	17
Total Counter		11	17	/	4	/	28	17
Total Disclaim		**23**	**31**	**/**	**8**	**/**	**38**	**34**

Unsurprisingly, the Research warrant stage involved the highest degree of disclaiming, with a smattering of disclaim formulations scattered across other stages. While only the Research warrant stages of the written texts, B2 and C2, were analysed, it is clear that instances of disclaim formulations were far fewer in this mode. Returning to the analyses in the previous chapter, we can see that the total use of Disclaim formulations correlated positively with personal pronoun frequency, and correlated inversely with lexical density, lexical sophistication, as key indicators on the spoken-written spectrum. The table below maps this relationship:

Table 53. Spoken-written continuum mapped across metafunctional features

	Written				Presented		
	B2	**C2**	**C**	**A**	**B**	**E**	**D**
	More written-like ◄				► **More spoken-like**		
Disclaim instances	-	-	8	23	31	34	38
Personal pronoun frequency	0	.03%	0.2%	1.6%	1.6%	2%	3%
	Lower ◄				► Higher		
Density	-	-	4.6	4	4	4	4.1*
Sophistication	-	-	40	25	25	10*	14
	Higher ◄				► Lower		

A third salient engagement pattern contributing to the interactivity of a text was the use of rhetorical questions, which appeared in three of the spoken texts, particularly frequently in Texts C and E, and in neither of the written texts. Rhetorical questions too highlighted phenomena unfamiliar to the audience, but did so within the rhythm of the surrounding rehearsed speech, fulfilling the textual metafunction of hypertheme for a rhetorical paragraph rather than as a 'spontaneous' aside to the audience within an explanation phase. Instances are collated below:

Table 54. Rhetorical questions in each text

Text	Instance	N
A	-	0
B	*But what is bone resorption and bone formation?*	1
B2	-	0
C	*What is small colony variants and biofilms?* *How about the lipid - how about the impact of oxidative stress and nitrosative stress on the biofilm and SCV formation?* *And how about the reactive aldehydes?* *And what is AKR superfamily?*	5
C2	-	0
D	-	0
E	*Why did we select Aboriginal community in Australia?* *You've seen me using the term 'comborbidity'; does it really matter?* *So with all these comorbidities, what is the problem - meaning, what are the consequences of all these comorbidities?* *What are the challenges of Aboriginal comorbidity til now?*	4

6.1.3 Explicit citation

As indicated in the previous chapter, there was very little explicit citation uttered in speech, though there was citation displayed on slides.

Citation on slides was most prominent in Texts A and E. Text A presented several full citations on slides in large font; Text E integrated them, often integrally, into sentences or dot points. The written proposals were much more heavily explicitly cited than their spoken equivalents. The number and modality of instances of explicit citation are summarised below:

Table 55. Explicit reference to others' work

Explicit reference to specific studies or researchers				
Text	**Written** (integral and nonintegral)	**Both modalities**	**Speech** (integral)	**Total instances**
A	9	2	2	9
B	4	0	5	9
B2	23			23
C	4	0	1	5
C2	86			86
D			1	1+n
E	7	3	3	7
Mean Presented	6	1	2	

Instances of integral citation, which give prominence to the source, were rare, with nine instances across five texts, and five of those in a single text (B). The few verbal references to other research construe sources as acknowledge (Text A and Text E), or as acknowledge and endorse (Text B). Text C2 involved **22** non-integral citations, and **1** integral citation, spanning 21 different cited sources in total, while Text B2 involved **82** non-integral citations, as well as **4** integral citations, spanning 76 different cited sources in total. The sources which were integrally cited in the presentation Text B represented most of those which were given as integral citations in the written proposal, Text B2, appearing in same substage of the Research warrant across each text. The incorporation of those particular sources was rhetorically significant for the speaker's research warrant, forming the basis for the opening of the research gap, that is of an *endorsed* observation that is in need of extension via explanation. Instances of integral citation across the texts are summarised on the next page.

Table 56. Instances of integral citation, (after Thompson & Tribble, 2001)

Text	n	Type	Instance	Engagement
A	3	Reification	*Denker's nasalisation procedure (x2)*	acknowledge
			The Caldwell-Luc	
B	5	Naming	*This study was first conducted by Lee in 1998…*	acknowledge
			…and [this study was first conducted by] Umbling in 1999	
		Naming, then verb-controlling	*…research by Panda in 2004 when he compared three…*	
			These studies were first conducted by Gardiner and she shows…	acknowledge + endorse
			This study also supported by Baldock in 2006, saying…	
			The previous study by Baldock et al. used...	acknowledge
B2*	4	Naming	*The use of genetically modified mice has been reviewed by Davey et al. 2006…*	acknowledge
			Panda et al. 2004 supported the notion…	
		Verb-controlling	*Li et al. (1998) and Amling et al. 1999 showed that…*	endorse
C	0	-		-
C2*	1	Naming	*NmlR is a novl MerR-like regulator identified by Kidd et al., 2005*	endorse
D	0	-		-
E	1	Naming, then verb-controlling	*…but there was an interesting study done by Matthew which said…*	acknowledge

*Research warrant stage only

We can see that integral citation is generally rare across the texts under consideration bar for one author, B, who deploys integral citation in both written and spoken texts.

Presenters not only integrated other sources in terms of findings but also integrated their diagrams and data, and in doing so endorsing it. Texts A, B and C each involved the presenter explaining data from an external source. Text A discusses a displayed survival graph authored by senior members of his faculty while establishing topic significance, as well as a number of histopathology slides which were used to explicate theories posed in the report of other's literature. Text B displayed metabolic pathways diagrams published in the literature when establishing topic significance. Text C displayed photographs, micrographs, and diagrams in the topic significance stage. The displaying of sources as established, uncontentious information thus enacted an *endorsement* of the source.

6.2 Attitude

The following section focuses on Attitude, both inscribed and invoked, within the texts under consideration.

Inscribed Attitude in the proposal presentations was overwhelmingly of *Appreciation*, particularly *Valuation*, though *Affect* dominated Set-Up and Terminate stages. An overview of instances of Attitude inscribed in spoken language is provided in Table below, with a full list in Appendices (4). There was also limited inscribed Attitude realised on slides, summarised in Table, which was consistent with the preference for inscribed Attitude to comprise Appreciation. The frequency of inscribed instances of Attitude in speech and on slides are summarised below:

Table 57. Inscribed spoken Attitude instances

Stage		**Text A**	**Text B**	**Text C**	**Text D**	**Text E**
Set-Up	Appreciation	-	-	-	1	-
	Affect	1	1	1	3	4
	Judgement	-	1	-	3	-
Research warrant	Appreciation	20	12	11	34	55
	Affect	2	-	-	2	11
	Judgement	-	-	1	-	4
Procedure	Appreciation	4	2	3	2	4
	Affect	-	-	-	-	-
	Judgement	-	-	-	-	1
Conclusion	Appreciation	n/a	n/a	4	4	n/a
	Affect			-	-	
	Judgement			-	1	
Terminate	Appreciation		2	-	-	-
	Affect	2	3	5	2	2
	Judgement		1	1	-	-
Dominant type		Appreciation	Appreciation	Appreciation	Appreciation	Appreciation

Table 58. Inscribed Attitude on body slides (minus axitech)

element	**Text A**	**Text B**	**Text C**	**Text E**
Images	pained face (-Aff:hap)	-	diseased skin (-App:Val:fun)	-
Written words	*fail*	*normal, problem*	*challenging*	*illness, ill effects, like a scar, problems, surprisingly!!!, difficulties and challenges, burden*
Dominant Type	Appreciation	Appreciation	Appreciation	Appreciation

Invoked Attitude is more dependent on context and is discussed over the following sections.

Considering Axitech

Axitech–technical terminology which is infused with axiological charge–was a significant component of the texts. *Cancer*, the context for the topic of Text D, is a strongly negatively charged term for general audiences. The contexts for the other texts – *rhinosinusitis*, *osteoporosis*, *staphylococcus*, and *mental health comorbidities* – are negatively charged, though perhaps less intensely than *cancer*. The negative charge emanating from the axitech colours the surrounding text, amplifying attitude. The term '*gold standard'* in Text A is arguably an item of axitech, as a standard term within medicine disciplines to indicate best practice, which also happens to be a lexical metaphor.

There were large amounts of axitech in the presentations. The axitech items invoked negative Valuation, as disease and illness are fundamentally matters of *dysfunction*. The dysfunctional aspect is infused in certain technical terms, for example via the hyper- or hypo- prefix indicating too much or too little of something, such as *hypertrophy* (Text A). Axitech concerning symptoms and mental dysfunction invoked Affect; limited items of axitech invoked Judgement.

Table 59. Axitech invoking negative Attitude types

	Text A	**Text B**	**Text C**	**Text D**	**Text E**
Affect	*headaches* *bodily pain* *suffering*	-	-	*vomiting*	*anxiety,* *depression* *addiction*
Judgement	-	*killed*	*opportunistic*	-	*racism*
Appreciation: Composition	*rhinosinusitis* *heart failure* *obstruction* *stasis of secretions* *mucosal thickening* *remodelling* *hypertrophy*	*osteoporosis* *bone brittling* *fracture* *knockout* *decreased bone mass*	*meningitis* *osteomyelitis* *death* *blocked* *mutants*	*cancer* *hair loss,* *ulcer*	*morbidity* *self-harm*

Doctoral research proposal presentation are gatekept by disciplinary experts, who will understand disciplinary axitech differently to lay people.

6.2.1 Key stages: Topic significance in the Research warrant, and Set-Up/Terminate

The topic significance stage of the Research warrants in each of the presentations was a particularly important section of the presentations. These stages can be characterised in terms of Attitudinal strategies.

There were two broad substages observed: the general context, and then specific topic of study. Presenters began by describing an affliction, and then describing specific issues or mechanisms. A number of salient patterns emerged from the data:

a) Inscribed Valuation and upscaled Graduation as part of a prosody of saturation, domination and/or intensification
b) Counter-expectation and denial which clarified and created audience alignment
c) Attitude-ideation couplings engendering stance.

The positioning of attitudinal language in key positions in texts amplified evaluation via dominance. Two of the presenters opened their presentations with inscribed attitudinal language to claim centrality for their research in hyperTheme position:

Text A *Chronic rhinosinusitis is an **important** disease*

Text B *This project was first built to **fight the osteoporosis demon***

This also occurred in Text C2

Text C2 Staphylococcus aureus is an **important** opportunistic pathogen…

The Attitude in Text B here was particularly strong. The metaphorisation of osteoporosis as a moral agent rather than a nonhuman phenonemon invokes a double layer of attitude, and retrospectively animates the term ‘fight’ as a live lexical metaphor. This enacts a particularly strong attitudinal effect, as lexical metaphor commits more interpersonal meaning. Figure 25 represents an attempt to visualise this effect:

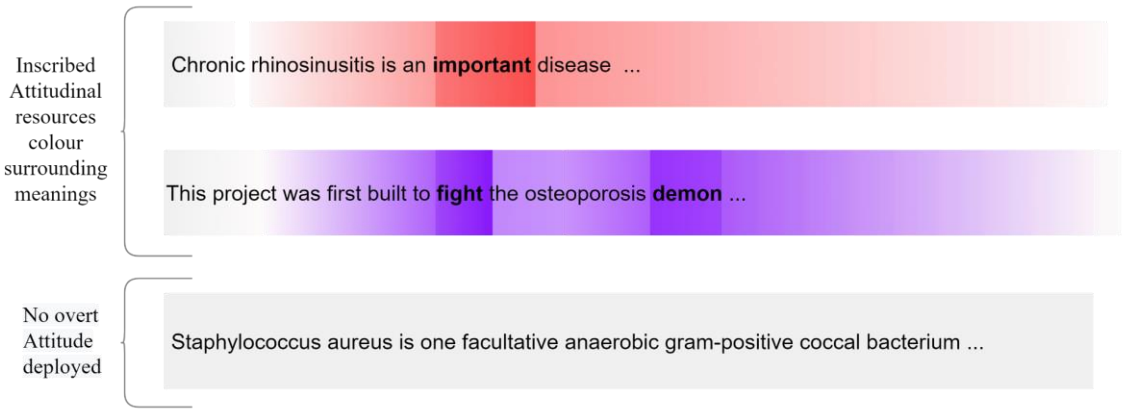


Figure 25. Attitude dominating two texts

6.2.2 Commitments of Attitude in slides and speech

Presentation slides were an important component of meaning-making. Slides and speech committed slightly different meanings, particularly in terms of Attitude. Inscribed Attitude predominantly occurred in speech rather than slides, as per the previous section. The following section outlines two cases of differing commitments of Attitude across speech and slides: saturation or inversion of Affect in Terminates; and neutralisation of axiological charge in an extract from Text E.

Saturating or Twisting Attitude in Terminate stage

Terminate stages were interpersonally significant as they completed the presentation and marked the transition to the Question-and-Answer session.

In addition to the obligatory Thanks/Acknowledgements slide, some presenters (A, B, C) also included a final slide that directly addressed the audience, expressing indebtedness. The register of the stage diverged from the rest of the presentation, which manifested in a number of ways, including in terms of citation. Though images were clearly externally sourced, no attribution was given. Meanings were in alignment with the text (spoken and written), representing monoglossic formulation.

Two Attitudinal patterns were observed. Presenters could continue to deploy Attitude of the previous ‘Thanks/ Acknowledgements’ slide, further saturating positive Affect, (Text C); or they could add in negative attitude which appraised their own talk as ‘boring’, enacting humorous self-depreciation (Texts A and B). Previous studies have speculated that self-depreciation in academic presentations

may be associated with high status; note that self-depreciation was deployed by two presenters who previously held higher-status clinical professions (a surgeon and a general practitioner). The realisation of these strategies in texts A, B and C are summarised in the table below.

Table 60. Attitude in final slides in texts A, B, C

	Slide (redrawn)		**Accompanying speech**		**Synergistic effect**
	Text	Attitude	Text	Attitude	
A		Image: - **App:reac** Wording: - App:reac ↓force:int	*So… (smiling)*	+Aff:hap	Weak self-depreciation
B	THANK YOU Questions anyone? [note: text was animated]	Image: ↑force:int Wording: **+Aff:hap**	*Therefore I will end my session for boring and wracking, nerve-wracking with any questions? Please don't ask.*	**- App:reac** **- App:reac** - Aff:sec **- Aff:des** - Jud:cap	Strong self-depreciation
C	Thank You for your attention!  Question	Image: +Aff:hap Wording: **+ Aff:hap**	*And thankyou very much for attention. Questions – if you want to clarify something, thankyou very much.*	**+ Aff:hap** ↑force:int **+ Aff:des** **+ Aff:hap** ↑force:int	Saturation of thankfulness

Re-instantiating Affect from slide to speech

Attitudinal meanings that occurred in slides were not identically recommitted in speech. Textual and ideational commitments across modalities in Text E have been explored in the previous Chapter; Attitude was even more divergent. In the extract from Text E (‘*Present is the reflection of the Past’*), the Interpersonal meaning is significantly recast. The slide text inscribes ‘*colonisation’* with a negative charge

(*ill effects*) and then saturates that negative charge through repeated deployment of negative evaluation: *denial, removal, ill effects, like a scar*.

In contrast, the spoken text inscribes a positive charge to colonisation (*positive [impacts*]) and reiterates negative charge but then nuetralises it – 'ill effects' become '*influencing effects'*. The slide moves from a neutral hyperTheme to an emotive hyperNew; the spoken segment moves from a positively charged hyperTheme and a neutralised hyperNew. The comparison is documented in Table 78. In this segment of meaning, the Attitude in the slide provides the attitudinal gravitas necessary for discussion of oppressed peoples: the recommitment of Attitude in the spoken verbiage allows the presenter to enact a more impersonal professional gaze.

Table 61. Attitude in slide and accompanying speech (Text E)

	Written verbiage	**Spoken verbiage**
hyper-Theme	'Present is the reflection of the past' Era of colonisation (from 1788) **Ill effects** [-Appreciation] of Colonisation	*If we want to know about the present condition, it's **worthwhile** [+Appreciation] looking at the past. In the past during the 1988 most of the country had colonisation and Australia is one among that. Because of colonisation the… it has two impacts; one was **positive** [+Appreciation] where the whole conti-nation was developed in an international arena; at the same time it also affected people who were living in the land of Australia.*
	Acquisition of land Replacement of traditional food Denial [-Judgement] of access to fresh water Forced removal of children [-Judgement] from the Aboriginal family.	*Acquisition of land happened; replacement of traditional food; denial [-Judgement] of access to basic needs; forced removal of children [-Judgement] from the Aboriginal families.*
Hyper-New	Consequently these **ill effects** [-Appreciation] are still in the memory of the Aboriginal people **like a scar** [-Appreciation]	*All these things right from the past has got an influencing effect on the health of the- the Aboriginal community.*

6.3 Attitudinal Strategies in Research warrants

The following section outlines the persuasive strategies observed within the Texts.

6.3.1 Presentation A: slingshotting

Throughout Presentation A, evaluative work was achieved through both inscribed and invoked attitude, particularly via graduation. The dominant type of inscribed attitude that appeared in Presentation A was Appreciation (n=21), and specifically of the subtypes Valuation: significance and Valuation: effectiveness. These evaluations tended to target surgical treatments.

Graduation was deployed frequently throughout the presentation (n= 74), both with evaluative items, for example ‘most **important’**, and with non-evaluative items, for example ‘a great deal number of patients’. As the introduction progressed, evaluation became decreasingly inscribed, and increasingly achieved through graduation of non-evaluative items. Graduation was predominantly of intensification, and amount, and occasionally also of scope and distance, and of specification. The following sections describe the deployment of attitudinal resources as the text unfolded, showing the strategies used to persuade the viewer of the significance of the topic and of the presenter’s proposed study.

Arguing the significance of the topic: slingshotting

In order to establish the significance of the topic, Presenter A utilises the strategy combination observed by Stosic (2021) in similar genres: negatively saturate the disease; graduate the affected population; and then amplify negative evaluation of current treatments. This strategy is achieved over three phases in the first descriptive report genre within the introduction macrogenre.

In the first phase, setting the field as the *disease*, the presenter establishes the disease as significant, and uses graduation to emphasise the number and impact it has on patients. This is accompanied by slides which reiterate the content of the speech. The first slide foregrounds negative Affect, and then is modified with text to upscale amount, as shown below in Table 79. The slides and speech together amplify the saturation of negative prosody of the disease.

Table 62. Claiming centrality (text A)

LIBRARY NOTE:

This table has been removed to comply with copyright.

In this phase, the presenter also establishes a professional gaze by recasting negative valuation as positive reaction: *'An **interesting [+Reaction]** part of the disease is that it exerts a higher **toll [-Valuation]** on the quality of the life of the patient than do, disease, than other **famous [+Valuation]** diseases...'*.

Table 63. Embedded or re-coupled evaluation in text A

Target	**Evaluation**	**Type**
other diseases	famous	+Appreciation:valuation
Chronic rhinosinusitis	exerts a higher toll on QOL	- Appreciation:valuation
Chronic rhinosinusitis' higher toll	interesting	+ Appreciation: reaction

The evaluation 'exerts a higher toll on the quality of life of the patient' colours the subsequent evaluation of 'famous' to mean something akin to 'infamous' – significant (which is always understood as positive Appreciation:Valuation), but in a negative way.

During this characterisation of the disease, the presenter also co-commits the meanings through gesture, which both mimes and accompanies intonation.

Table 64. Gesture in Text A

LIBRARY NOTE:

This table has been removed to comply with copyright.

In the second phase, the presenter shows a slide featuring a small photograph of surgery, narrows the field to *treatment of the disease*, shifting the prosodic key and narrowing further to *surgical treatment of the disease.* The presenter then positively evaluates the current 'gold standard' surgery for the condition via positive Appreciation and upscaled amount, and displays a diagram of the sinuses which he interprets for the audience while intensifying the positive saturation of functional surgery:

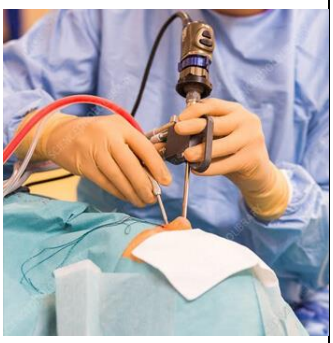
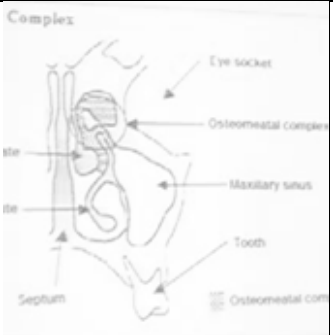
	*The treatment of chronic rhinosinusitis is done through medical management.* ***However,*** [attitudinal shift] *a great deal* [graduation: intensity] *number* [graduation: amount] *of patients pass on to require [invoked Judgement: normality-] surgical management. And since the invention of the endoscope, in the 1980s,* [graduation: extent: scope] *functional endoscopic sinus surgery has risen* [graduation: intensity] *to be* ***the gold standard*** [Appreciation: valuation: effective+] *in the surgical management of chronic rhinosinusitis. The concept of functional surgery is that it clears* [invoked Appreciation: valuation: effective+] *disease at the ostiomeatal complex.*
 [graduation: authenticity]	*And I will show you {here}, {this} is a diagram of the sinuses; {this} is the ostiomeatal complex area, which is the most* [graduation: intensity] ***important*** [Appreciation: valuation: significance+] *area of disease. So the concept or the hypothesis of this obstructive theory is that an obstruction that occurs in the ostiomeatal complex area, {these} two* [graduation: amount] *spaces of the secretions from the sinuses and intrasinus infection and mucosal thickening, and the concept of the surgery is that by relieving obstruction, disease can be cleared, from the sinuses. And this concept was hugely* [graduation: intensity] ***successful*** [Appreciation: valuation: effective+]*. Success rates for functional surgery is about 90%* [graduation: amount] *of primary cases.*

Figure 26 Slide image, and verbiage in second phase of topic significance

In the third phase of arguing for topic significance, the presenter then uses the 'slingshot' strategy (as per Stosic, 2021: 11), in which amplified positive evaluation of the current treatment is suddenly flipped to negative with a concessive conjunction (***but***) and graduation of non-evaluative items (*it falls to 70% for patients who are doing it for a second time*). The slide also returns to feature the snapshot image of functional surgery, taking the audience from the 'concept' of surgery back to the 'reality' of surgery.

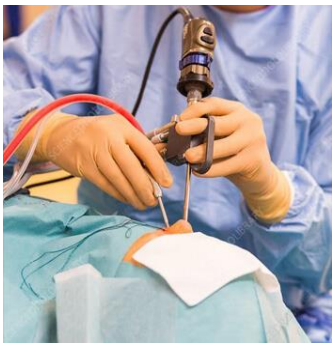
	***But*** [attitudinal shift] *it falls* [graduation: intensity] *70%* [graduation: amount] *for patients who are doing it for a second time.*

Figure 27 Slide image, and verbiage: slingshotting

Presenter A follows this attitudinal slingshotting with an amplified evaluation of the affected population, which further narrows the topic. Negative affect - *suffering* - is inscribed, followed by evoked evaluation via graduation of non-evaluative items which pick up and further saturate the negative prosody. The topic is reiterated as the slide heading, invoking positive evaluation, that is of significance. In addition to the attitudinal work, the professional gaze is reiterated via use of a monoglossic *'we'* - *we* [surgeons] *call them.*

Table 65 Amplified evaluation in slide heading and speech

Slide heading	Transcribed speech
Refractory Chronic Rhinosinusitis [invoked Appreciation: valuation: significance+]	*And these patients, we call them as* ***suffer*** [Affect: happiness-] [Judgement: normality-] *from refractory chronic rhinosinusitis. That is,* ***no matter*** [graduation: intensity] *how number* [graduation: amount] *of surgeries they go through, they* ***are*** *resistant and require further* [graduation: amount] *revisions, and have persistent* [graduation: enhancement: frequency] *symptoms.*

During this embedded report, the presenter deploys evaluation with and without graduation, and graduation with and without evaluation. The disease is evaluated as significant (*important*, *interesting*), and its impacts are scaled up (*higher toll*, *usually complain*).

Table 66. Evaluation in embedded report

attitude/graduation	**Target**	**Appraisal**
Attitude alone	disease	+ ***important***
	part of the disease	+ ***interesting***
	other diseases	+ ***famous***
	patients	***-suffer***
Attitude + graduation	disease	*-higher* ***toll***
	patients	+ *usually* ***complain***
	functional surgery	+ *has risen to become* ***the gold standard***
	functional surgery	+ *hugely* ***successful***
	area of disease	+ *most* ***important***
Graduation alone	population	*around 12.5%*
	symptoms	*more than three months*
	patients	*a great deal number*
	success rates	*are 90%*
	success rates	*fall 70%*
	surgery	*no matter how number*
	surgery	*further*
	symptoms	*persistent*

Arguing a need for new knowledge: bouncing back up

In the second part of his introduction, Text A reports on the existence of alternative approaches to the surgical management of the condition, evaluating alternatives positively. The presenter opens up dialogic space, slightly, via countering – functional surgery is **not** the **only** option – and reports on a group of radical surgeries. After the discharging of the slingshot persuasion strategy, the prosody again shifts, this time into positive evaluation of an alternative.

Table 67.Opening up dialogic space

Slide heading	Transcribed speech
Alternative Surgeries [invoked Appreciation: valuation: significance+]	***However***, [attitudinal shift] *functional surgery is* ***not the only*** [graduation: intensity] *option. There has, in the literature, there has been alternative surgeries, that have been reported to give* ***better*** [Appreciation: valuation: significance+] [graduation: intensity] *outcomes in this subset of patients. These include the Caldwell-Luc, canine fossa trephines, frontal drillout for the frontal sinus or radical ethmoidectomies, and Denker's nasalisation procedures. These procedures do* ***not depend*** *only* [graduation: intensity] *upon relieving ostiol obstructions,* ***but*** [attitudinal shift] *they clear as much* [graduation: amount] *of the diseased tissue in the sinuses. And in the extreme* [Appreciation: valuation: significance+] *cases, like in Denker's nasalisation procedure, creating almost like* [graduation: specificity] *one great cavity* [graduation: amount] *of all* [graduation: intensity] *the sinus cavities*

The presenter then interprets data from his department displayed on a slide which agrees with the alternative surgeries. The presenter identifies the data as unpublished in speech and on the slide, aligning himself closely with it (from *our* department, in *our* case) and describes it confidently, graduating non-evaluative items and positively appreciating, and intensifying, its results.

Table 68. Positive Appreciation of evidence

Slide image	Transcribed speech
[survival curve graph]	[*Here} is some data from our department which still* [graduation: extent: scope] *hasn't been published. {This} is a survival analysis of functional surgery, again it's another* [graduation: amount] *group of patients which have undergone radical surgery, and in our* [graduation: extent: distance] *case, this was a frontal drillout, plus a canine fossa for the maxillary sinus. {Here}, this survival curve So, you can see, as the curve descends, this means that once a patient has undergone a revision surgery, that means {this} is the month post-operatively, after surgery, and patients start from {here}, and {this} is the functional phase, so as a patient requires a revision, the curve... goes a bit* [graduation: amount] *down. And we see {here} the difference between the end of the post-operative need for revisions between {this} group, the functional group, and radical group, and this difference was statistically* ***significant*** [Appreciation: valuation: effective+] *between two groups, implying that radical surgery in this group offered* ***better*** [Appreciation: valuation: effective+] [graduation: intensity] *post-operative survival, as in a* ***lesser risk*** [Appreciation: valuation: effective+] [graduation: intensity] *of revision surgeries.*

The presenter then outlines the matter of contention in the discipline as a series of questions, and displays an image representing ‘an argument’. The questions are metaphorical, or rhetorical, rather than congruent, as the previous interpretation of data has already established that yes, we do indeed get better outcomes from radical surgery.

Table 69 Framing an argument

So far in the introduction, evaluation has gone from negative (disease) to positive (current treatment) to negative (current treatment) to positive (new treatment). The slingshot strategy which argued the significance of the topic thereby also functions to underpin the argument for new knowledge, allowing the evaluation to ‘bounce back up’. Remaining evaluation in the discussion of previous research is largely invoked via graduation, and is summarised in the table below.

Table 70. Describing previous research

Type	**Target**	**Appraisal**
Attitude	opening the sinus ostia	***-wouldn't be of benefit***
Attitude + graduation	outcomes	*-usually* ***worse***
	outcomes	***-worse***
	radical surgery outcomes	***+better***
	opening the sinus ostia	*-just* ***does not*** *make any difference*
	remodelling	*-almost* ***no***
Graduation	observations	*two*
	needs	*higher*
	symptoms	*persistent*
	eosinophilia	*higher*
	eosinophilia	*higher*
	factors	*all*
	removal	*more increased*
	definition	*old*
	decline	*over time*
	asthma guidelines	*before they discovered remodelling*
	treatment	*which was beginning there wasn't such a case*
	membrane	*very thick*
	slides	*almost the same*
	study the eosinophilic part	*especially*
	study	*in an attempt to decipher perhaps the role*

6.3.2 Presentation B: saturation and graduation

Presentation B achieved its persuasive work predominantly through invocation. After an initial cluster intensified inscribed Appreciation, persuasion is largely achieved through graduation of non-evaluative lexis. Flagging attitudinal shifts via concessive conjunction also structured the prosody of the macrogenre. The dominant type of inscribed attitude that appeared in Presentation B was Appreciation, specifically of significance.

Arguing the significance of the topic: explanations and graduation

Presenter B predominantly invokes attitude through graduation, with bursts of inscribed attitude which establish the significance of the topic and gaps in existing knowledge. The presenter begins by inscribing very strong negative attitude of a health condition, denoted as 'the osteoperosis **demon**'.

Table 71. Inscribed Attitude in Presentation B's topic significance argument

Target	Attitude: Appreciation
osteoporosis osteoporosis preventing osteoporosis treating osteoporosis	- ***demon*** *[incongruent – suggests Judgement]* - *a major health* ***problem*** + *really* ***important*** - *very* ***costly***
osteoclast	+ ***important***

Throughout this initial descriptive report, which reports on the mechanism, prevalence, and treatment of the disease, as well as an embedded activity sequence of a metabolic pathway, Presenter B deploys extensive graduation of non-evaluative items, scaling amount (n = 9), scope (n = 6), distance (n = 3), and frequency (n = 1). The embedded activity sequence concludes with inscribed Appreciation of a type of cell, narrowing the field: '*Osteoclast is a bone cell that [is]* ***important*** *for the bone resorption process'*.

Arguing a need for new knowledge: explain and counter

After narrowing the field, Presenter B then moves into a descriptive report of what is known and not known about the topic, shifting the prosodic key with a concessive conjunction and a general question: *'But osteoblast, {here}, is cells that affecting bone formation. Therefore, there is a question….'.* She then again switches prosodic key and delivers another series of explanations, containing small amounts of graduation of non-evaluative lexis, which are punctuated by comments which upscale negation and signal the research gap:

- *This process is activated by the lining cells and the osteoblastic soma cells,* ***but*** *the mechanism we still* ***not*** *know.*
- *These process controlling every and each of these particle is still very much in question*
- *We can see that both cells …have the expression of CYP27b1 and VDR. Therefore, vitamin D* ***cannot*** *only just act on bone resorption; they also have some effect in bone formations.*
- *All these raise to the question whether the VDR mediated activities in the bone formation cell really do exist.*

Arguing for one's own proposed research: appreciate and upscale

Presenter B's description of her own research predominantly involved graduation of non-evaluative items which positively colour her subsequent research questions.

*So. An **adequate** [Appreciation: valuation: composition+] calcium level is **not** [counter] just [graduation: intensity] the main [graduation: intensity] idea of the whole [graduation: scope] bone remodelling process. If so how the calcium vitamin D and vitamin D receptor interacts in bone remodelling and what is the mechanism? This is the one that we are trying to [graduation: fulfilment] identify by analysing by analysis by means of mouse models that needed that will elucidate [graduation: intensity] the mechanism underlying bone remodelling process. In order to investigate the role of the dietary calcium in vitamin D receptor mediated activates in bone-forming cells, this research aim to answer these following questions. The first one is vitamin D receptor or VDR activities in the bone cell dependent on calcium and or its ligand which is vitamin D, and if so what is the roles of dietary calciums in vitamin D receptor mediated bone-forming cells activities in the bone structure.*

6.3.3 Persuasion in Presentation C and text C2: converging and diverging Appreciation

Comparison of the texts of the presented and written proposals of Presenter C allows us to see how the persuasive work of the introduction is achieved through two different modes. While both texts use similar attitudinal strategies and across many phases similar amounts and types of attitude, the written text in some places restrains deployment, and overall, the presented text deploys a higher variety and higher amount of attitudinal resources, particularly of graduation. The difference between the texts is most marked within the first embedded descriptive report of the topic, where the presenter repeatedly intensifies non-attitudinal items, saturating prosody.

Arguing the significance of the topic: Valuation, Reaction, and intensification

Presenter C persuades the audience of the significance of the topic by heavily saturating negative prosody of the topic, a pathogen, through both inscribed evaluation – primarily negative Reaction, and positive Valuation: significance - and invoked evaluation through graduation of both attitudinal and non-attitudinal items.

The presented and written texts approach the initial phase of reporting on the topic and arguing its significance slightly differently. In her presentation, the significance of the pathogen is immediately inscribed visually via a collection of images of the

pathogen and wounds it has caused. Presenter C repeatedly invokes positive evaluation of the significance of the pathogen through graduation of non-evaluative lexical items (n = 6), culminating in upscaled positive inscribed Appreciation: significance of some of the diseases caused by the pathogen, '*more* ***serious*** *diseases…*', gesturing to her slide image.

In the written proposal, which has no images, Presenter C inscribes positive Appreciation of the pathogen at the outset, and then offers non-evaluative content with a higher amount of graduation (n = 9).

Table 72. Claiming centrality in Texts C and C2

Text	Text
Text C	*Staphylococcus aureus is one* [graduation: amount] *facultative anaerobic gram positive coccal bacterium, and it's colonised in the skin and the nasal cavity. Approximately 20% of human* [graduation: amount] *population are long-term carriers, and 60%* [graduation: amount] *are intermittent carriers. This also known as an 'opportunistic pathogen' and leading a full* [graduation: scope] *spectrum of infection. As you can see {here} that is some* [graduation: amount] *tissue infection, like* [graduation: authenticity] *impetigo, boils, wound infections, or more* [graduation: intensity] ***serious*** [Appreciation: valuation: significance +] *diseases such as meningitis, endocarditis, osteomyelitis, pneumonia and toxic shock syndrome.*
Text C2	*Staphylococcus aureus is an* ***important*** [Appreciation: valuation: significance+] *opportunistic pathogen that can lead to a myriad* [graduation: intensity] *of diseases in its transit through to various sites in the body. It often* [graduation: frequency] *colonises the skin and the anterior nares of human host in particular* [graduation: authenticity] *nasal cavity [1]. Approximately 20-30% of human* [graduation: amount] *population are long-term carriers, and 60%* [graduation: amount] *are intermittent carriers of S. aureus [2]. It can cause minor* [graduation: intensity] *infections such as* [graduation: authenticity] *superficial skin lesions, or deep* [graduation: intensity] *abscesses such as* [graduation: authenticity] *pneumonia, bronchitis, meningitis, osteomyelitis, endocarditis or septicemia [3].*

In both texts, the topic is then narrowed to drug resistance across a second phase within the first descriptive report. Across both texts, multiple non-evaluative items are graduated, in terms of scope, amount, and intensity. In her presentation, Presenter C graduates the problem in terms of distance, referring to the US and to developing countries. In her presentation, she also inscribes negative Judgement of unnamed agents in developing countries, assigning culpability for antibiotic resistance. In her written proposal, the content is nominalised and the Judgement is absent, and the risk is framed in relation to treatment, rather than deaths.

Table 73. Diverging Attitude in texts C and C2

Text C	*In recent year,* [graduation: scope] *is also known as a 'superbug'. A superbug, because it can develop to multi-antibiotic-resistant strains, that is hospital-acquired methicillin-resistant Staphylococcus aureus, or HA-MRSA, or community-acquired MRSA, and even* [graduation: intensity] *vancomycin-intermediate and vancomycin resistant strains. This becomes a worldwide* [graduation: scope] ***problem,*** [Appreciation: valuation: significance+] *not only in developed countries, like US* [graduation: distance] *- each year* [graduation: scope] *about 20,000* [graduation: amount] *deaths due to MRSA infections - now it also has become an issue in developing countries,* [graduation: distance] *because of the* ***overuse or wrong use*** [Judgement -] *of antibiotics.*
Text C2	*The emergence of multiple drug resistant S. aureus both inside and outside hospitals poses a great* [graduation: intensity] ***risk*** [Appreciation: valuation: significance+] *for the current and future* [graduation: scope] *treatment. These strains are known as Methicillin-Resistant S. aureus (MRSA) [4] or more specifically* [graduation: authenticity] *HA-MRSA (Hospital Acquired MRSA) for nosocomial infections, or CA-MRSA (Community-Acquired MRSA) for community infections. Recently,* [graduation: scope] *the antibiotic resistance has become more* [graduation: intensity] ***serious*** [Appreciation: valuation: significance+] *with VRSA strains (Vancomycin Resistant S. aureus) being discovered [5]. New* [graduation: amount] *therapies are required to combat these strains [2].*

Both texts then continue to narrow field. First, the lifestyles of the pathogen are reported. In the written text, this is done through graduation of both attitudinal items, for example *much* ***better***, and non-attitudinal (n = 3) items, for example *rarely resolved*, and through inscribed positive Valuation (n = 3), and inscribed negative Reaction (n = 2). In the presentation speech, there are inverted proportions of positive Valuation (n = 1) and negative Reaction (n = 4), and the inscribed attitude is bolstered by large amounts of pre-qualifier graduation of non-attitudinal items (n = 13).

Table 74. Comparison of Attitude in written and spoken - topic significance

Written (C2)	**Spoken (C)**
S.aureus can switch from planktonic form to the other modes of existence including biofilms and 'Small Colony Variants' (SCVs). Both these forms of S.aureus are protected from physiologically inhospitable conditions in the host. They have been demonstrated to be less [graduation: amount] *metabolically active and resist antibiotics much* [graduation: intensity] ***better*** [Appreciation: valuation: effectiveness+] *than the wild type counterparts [6-7]. Infections mediated by biofilm and SCV modes of growth are rarely* [graduation: frequency] *resolved by host defences and thereby cause several* [graduation: amount] ***important*** [Appreciation: valuation: significance+] *chronic diseases. The common features of both lifestyles are that they are* ***difficult*** [Appreciation: reaction-] *to define and culture, leading to* ***significant*** [Appreciation: valuation: significance+][graduation: intensity] ***challenges*** [Appreciation: reaction-] *in targeting therapies against them.*	***Importantly,*** [Appreciation: reaction+] *now, it can switch to special* [graduation: intensity] *lifestyles, such as biofilms and small colony variants; they are the* ***important*** [Appreciation: valuation: significance+] *cause of the relapse and recurring infections. What is small colony variants and biofilms? As you can see here, there's a differences between the normal types and biofilms, and between the normal types and small colony variants. In the biofilms, biofilms is known for a long* [graduation: scope] *time, and it is characterised by the multilayers of single cells or micro-colony encased in a matrix which is formed by extracellular polysaccharide matrix. This matrix is very* [graduation: intensity] *rigid and protects the cells from the destructive factors such as* [graduation: authenticity] *nutrient starvation, pH or osmotic changes, or oxygen level. The, another* [graduation: amount] *kind of evolutions in metabolic pathway that is small colony variants. Small colony variants are characterised as a very very* [graduation: intensity] *small size colony, like pingpong* [graduation: intensity] *and they are colourless and non-haemolytic. And both of these forms are very* [graduation: intensity] ***challenging*** [Appreciation: reaction-] *for diagnosis because of these special* [graduation: intensity] *characteristic, and* ***challenging*** [Appreciation: reaction-] *for treatment because of this is* ***difficult*** [Appreciation: reaction-] *to totally* [graduation: scope] *removed. Therefore it can be found in chronic and prosthetic device infections, such as* [graduation: authenticity] *cystic fibrosis, osteomyelitis, and intercostalitis, or sinusitis. They are very* [graduation: intensity] *slowly in growth but still* [graduation: intensity] *virulent. And, in recent years* [graduation: scope] *they are demonstrated as having higher* [graduation: amount] *persistence and higher* [graduation: amount] *antibiotic resistance, and because of this characteristic, very* [graduation: intensity] *special* [graduation: intensity] *and so this requires new* [graduation:scope] *therapies.*

Table 75. Spoken invoked Attitude in Text C

graduation	non-attitudinal target
special	lifestyles
a long	time
very	rigid
another	kind of evolution
very very	small
special	characteristic
totally	remove
very	slowly
still	virulent
higher	persistence
higher	resistance
very	special
new	therapies

In the final phase of establishing the significance of the topic, the presented and written proposals describe stressors and their significance to the survival of the pathogen. Both invoke attitude (*the overarching principle; array of agents/many agents*) and inscribe attitude (***toxic/ damaging***). The written proposal also inscribes positive Appreciation: Reaction, characterising the pathogen's stress response strategy as being **remarkable.**

Table 76. Appreciation: reaction in written text

	Attitude/graduation	*target*
Text C	*overarching* *many* *very* ***toxic***	*principle* *agents* *stressors*
Text C2	*overarching* ***remarkable*** *array of* ***damaging***	*principle* *strategy* *agents* *chemicals*

Arguing a need for new knowledge and one's own proposed research: stepping into a gap

The two final embedded genres in texts C and C2 are described here together, as the report of literature and description of the proposed study are smoothly connected in both texts.

In the second descriptive report embedded within the introduction macrogenre, both written and presented proposals of Presenter C report on a lack of research into

specific stress response mechanisms within the pathogen lifestyles. Both texts use the same persuasive strategy, positing a gap – while something is known about [X], very little is known about [Y] – followed by elaboration. The notable difference between the texts is not in the persuasive strategy itself, but in the enactment of that strategy. The written text reports on the literature in 220 words; the presentation does this over 675 words. The proposal additionally amplifies the knowledge gap through the graduation of non-attitudinal items over the course of a number of embedded examples and explanations which make sense of the key concepts for a non-specialist audience (including, for example, an explanation of genetic spacers). The full analysis can be found in the Appendices.

The final embedded genre of the introduction, a description of the current proposed study, is brief in both presented and written texts. The written text reinforces the persuasion with inscribed positive Valuation, whilst the presented text does not.

Table 77. Valuation in spoken text

Text C	*The NmlR protein from S. aureus ($NmlR_{SA}$) is different and appears to be regulating the expression of an AKR,* ***not*** *[attitude marker] AdhC. The characterisation of AKR-NmlR system and the determination of its role in the stress response and in the physiology pathway of* ***major*** *[Appreciation: valuation: significance+] S.aureus pathotypes and clinical isolates will form the basis of [graduation: scope] this project.*
Text C2	*So, from the background, AKR and NmlR, we have two [graduation: amount] hypotheses. The first is that NmlR in Staphylococcus Aureus plays a role in the defence against aldehydic base stress. And ah it has a new [graduation: scope] arrangement and is ah two [graduation: amount] target that is AKR and HysA. So, HysA is one of [graduation: specification] the spreading factor, help Staphylococcus Aureus in invade host by degrading the connective tissue. And the MERR-like operator promoter is upstream of this MRSA. And the second hypothesis here that's related to the biofilm and SCV formation, that is, clinical isolates may possess specialist pathways for stress response and this will determine their lifestyles.*

6.3.4 Persuasion in Presentation D: variety and amplification

Presenter D's persuasive strategies for establishing her research warrant involved intense bursts of inscribed attitude, predominantly of Reaction and Valuation, and also of inscribed Judgement and Affect.

Arguing the significance of the topic: narrowing

Presenter D begins her presentation very broadly, deploying invoked evaluation via graduating non-attitudinal items for the first few minutes of her presentation, mostly in terms of amount, until the field is narrowed to the topic, where she then inscribes upscaled negative Appreciation.

Table 78. Attitude and field in claiming topic significance

	graduation/attitude	**target**
Generalised field ↓ ↓ ↓ ↓ ↓ Narrowed field	a lot of	us
	rising	cancer incidence
	a lot more	people
	most	cancers
	many other types	of [treatment]
	there's always	side effects
	all	we
	many	[side effects]
	one of the commonest **adverse** events	neutropenia

The presenter then explicitly addresses non-specialists in the audience, inscribing negative Judgement of the audience, and also thereby invoking positive Judgement of herself and others in the field:

> *For the interest of my audience* ***who are not medically trained*** [Judgement: capacity-], *I just want to give you a quick* [graduation: scope] *overview on what neutropenia is, some* [graduation: amount] *facts.*

The presenter then uses a variety of inscribed and invoked attitude to continue to narrow the field and to establish the significance of her topic. A summary of types, colour coded to demonstrate the variety, and ordered as they appeared in the text, is provided in Table 79 on the next page.

Table 79. Saturation of Attitude in Text D

Type of Attitude	Target	Attitude/graduation
graduation	patients	75%
graduation	neutropenia	does expose
Appreciation-	neutropenia	sometimes related to **life-threatening**
graduation	patients	10-15%
Appreciation -	[subset of] patients	more **ill**
Appreciation-	[subset of] patients	higher **risk** of **life-threatening**
Appreciation-	This risk	**unfortunate**
graduation	patient mortality	can range from 7% to 20%
Appreciation-	neutropenia	most **severe**
Appreciation-	infection	**severity**
Appreciation-	neutropenia	sometimes **life-threatening**
graduation	neutropenia	sometimes very mild
Appreciation-	neutropenia	**life-threatening**
Appreciation-	patients	very **sick**
graduation-	patients	sometimes recover but with some **damage**
graduation	treatment	reduced or even delayed
graduation	neutropenia	frequent
Appreciation-	patient	**poor** quality of life
Affect-	patient	a lot of **fatigue**
Appreciation-	patients	**[not] normal** function
Affect-	patients	sometimes **frustrates**
graduation	costs	increase
graduation	patients	stay longer
graduation	costs	increase more
Appreciation-	neutropenia	**problem**
graduation	resources	quite limited even in Australia
graduation	patients	waiting a long time before [admission]
graduation	patients	immediate attention
graduation	patients	continue to be inpatient
graduation	patients	need intensive monitoring
Appreciation-	patients	**deterioration**
graduation	patient hygiene	really emphasised

Arguing for new knowledge and for one's own proposal – zigzagging field

Text D reported on the literature in very broad and downscaled terms. Presenter D used 'looking' and 'knowing' as reporting verbs: while this suggests downscaled enhancement, the consistency of use neutralises this invocation somewhat. Across phases of the second descriptive report, Presenter D zigzagged between two fields: the field of research, and the field of clinical practice. The persuasive strategy is to, largely implicitly, construe the significance or value of research in terms of what it means for doctors, nurses, and patients on the ground. This is then extended overtly into the description of the presenter's proposed research.

Table 80. Evaluating fields in Text D

Prosodic chunks	Text	
Reporting on clinical interest	*a lot of* [graduation: amount] *people are* ***actually*** *looking into* [graduation: rigour], *especially* [graduation: authenticity] *physicians…* *we're trying* [graduation: fulfilment] *to…* *doctors look into* [graduation: rigour], *…* *attention is more looking into* [graduation: rigour], *…* *other people have looked into* [graduation: rigour], *…*	
Narrowing field	*I'm not looking at* [graduation: rigour]*…* ***but*** *I'm looking at* [graduation: rigour]*…*	
Reporting on research and researchers	*as early as the 1980s* [graduation: scope] *there have been a lot of* [graduation: amount] *studies looking at* [graduation: rigour], *…* *It is* ***important*** [Appreciation: valuation: significance] *to know…*	
	projected irrealis knowledge	***low low*** [graduation: intensity] ***risk*** [Appreciation-] *very* [graduation: intensity] ***sick*** [Appreciation-] *very* [graduation: intensity] ***high risk*** [Appreciation-] ***actually*** *very* [graduation: intensity] ***sick*** [Appreciation-]
	in the late 1980s to about the 2000s [graduation: scope] *there are* ***actually*** *a few different ways* [graduation: scope] *of looking* [graduation: rigour]*…* *for one* [graduation: specification] *will be…* *there are other* [graduation: amount] *studies which* ***actually*** *went on to…* *there are different* [graduation: amount] *factors that have been listed…*	
Returning to clinical interest	*this caused a lot of* [graduation: amount] ***concern*** [Affect: security-] *for some* [graduation: amount] *of the* ***practising*** [Judgement: capacity] *physicians because…*	
	projected irrealis concern	***supposedly low risk*** [Appreciation-]*…* ***serious*** [Appreciation: valuation: significance+] *condition…* *a little bit* [graduation: amount] ***compromised*** [Appreciation-]
Returning to research	***so*** *in terms of new* [graduation: distance] *studies, more and more* [graduation: amount] *studies have been coming up with* [graduation: amount] *…* *there will also* [graduation: amount] *…*	

↓

Inserting own research	*So because of this I'm* ***actually*** *looking* [graduation: rigour]*. a way to identify the most* [graduation: intensification] ***significant*** [Appreciation: valuation: significance+] *risk factors that will* ***help*** [Appreciation: valuation: significance+] *me in understanding what risk factors for each group of patients* [graduation: scope] *so that it will be more* [graduation: intensity] ***reliable*** [Appreciation: valuation: effective+] *in terms of stratification* [graduation: scope]*.*

6.3.5 Judgement in Text E

6.4 Summary

This chapter characterised the Engagement and Attitudinal patternings observed in the texts under consideration. In order to respond to the questions of how presentation proposal persuade, the nature of overt evaluation, and how they refer to other research, it examined patterns of evaluation and engagement formulations within and across the presentation proposals. Different persuasive strategies were identified. Text A used a slingshot strategy to amplify polarised attitude. Text B hyperthematised negative Appreciation of a condition and then deployed largely covert evaluation. Text C deployed bursts of Appreciation and intensification. Text D began broadly, used varied types of attitude, and zigzagged back and forth between the literature and clinical implications. Text E saturated negative Appreciation and Judgement.

The type of engagement resources deployed over the presentations were consistently formulated as monogloss or contractive heterogloss, with occasional bursts of expansive heterogloss, particularly around the research focus and procedure. Other research looking at conference presentations has found that presenters typically spend very little time discussing other research, and rarely explicitly (Rowley-Jolivet and Carter-Thompson, 2008). However, in this small corpus of texts, presenters did refer to other research, both generally and specifically.

Chapter 7 Discussion

Overview

Research proposal presentations are unique literacy events in the careers of higher degree by research candidate. Presenting the parallel text is more than a recitation or summary; it is a re-construal, requiring presenters to convey their proposed project whilst balancing dense technical content with the needs of a mixed live audience. The broad aim of this research was to explore how exactly presenters manage this, particularly as literacies support for presenting is less comprehensive than for written texts. This study had three guiding research questions: what is the generic nature of a doctoral research proposal presentation; how do these presentations persuade; and what is the division of semiotic labour within them? In order to respond to these questions, this study looked at a set of doctoral research proposal presentations in terms of their generic staging, the deployment of evaluative resources, and the coordination and synergy of meanings across both slides and speech. Overall, it finds that proposal presentations can be characterised a type of evaluative report based on an anticipatory procedure. The genre involves an extended research warrant macrogenre with multiple levels of genre embedding, plus limited procedural detail. The preference for dialogically contractive resources, particularly counter-expectation and denial, serves to firmly align the audience with the positioning of the presenter. The results also show that, in these health sciences texts, phenomena are evaluated in terms of significance, functionality, success, safety, cost, and risks versus benefits. The following discussion considers the implications of the findings, potential relevance for literacies support, and finally the limitations of the study and directions for future research.

A persuasive genre dominated by the research warrant

The common social purposes of the doctoral research proposal and its presentation are *informative*, to detail a future research activity as per the parallel text; *evaluative*, to establish the importance of the topic and research gap; and *persuasive*, to convince the audience that the project is both appropriate and feasible, and that the author is a competent researcher who will successfully see the project to completion. The identification and delineation of generic staging in the presentation proper was important to tease out the discrete functions of the texts.

Firstly, bridging course and faculty resources prompted candidates to base the structure of the presentation proper on the classic procedural report genre, IMRaD, however apart from the inclusion of a labelled introduction and some form of methods, the presentations were otherwise quite variable in terms of what was included. The underlying core structure of the proposal presentation appears to be a research warrant, followed by a procedure. Secondly, bridging course resources prompted candidates to adopt a sandwich presentation structure; however presentaters actually tended to end the body section with methods, foregoing a summary. Thirdly, bridging course and faculty resources did not distinguish between types of introductions, i.e. setting up the talk, or the introduction in the presentation proper. The mismatch between the advised and observed text stagings suggest that this is one area where researcher education may be able to better target guidance on presenting. In particular, it may be helpful to be mindful of and consistent with metalanguage.

Establishing the warrant for the research occupied the vast majority of each the presentations. The analyses of the research warrants show that the spoken texts are particularly intricate in terms of their genre structure, involving layers of embedded genres which enable presenters to explain or emphasise key information to the audience. Most of the texts in the cohort framed their proposed studies as filling knowledge gaps, using informing *reporting* genres; within those were second-order embedded genres *explaining* related phenomena. One text framed the research as an argument between two possible positions, using a *challenge* genre, and within those second-order embedded genres *describing* evidence to support those positions. Previous research (Szenes 2017) has shown that genre embedding is a valuable strategy in complex written texts; popular advice on presenting advises the adoption or insertion of story genres to enhance the impact of a speech (e.g. University of Queensland 2022; Duarte 2012). The bridging course's framing of the research proposal as a triumph narrative (see Chapter 2) seems much more of a way to provide a framework for candidates to axiologically charge their texts, than as a genre model for either the written or presented proposal. The bridging course did broach the embedding of explanation genres, advising candidates to explain key concepts that a general audience may not understand, whilst also advising candidates to 'avoid the undergraduate lecture syndrome focus [on your] contribution/ significance/message not teaching facts!' (see Chapter 2). Young and

Nguyen's 2002 comparative analysis of textbooks and teacher talk demonstrates that a distinguishing feature of teaching language is the consistent unpacking of *all* technical grammatical metaphors, rather than only the particularly important ones. In presentations for a mixed audience, presenters must be selective about unpacking: enough to maintain coherence, but not so much that the text *lectures* rather than *persuades*. This is perhaps an opportunity for more precise metalanguage to be incorporated into literacies support.

Shifts in the use of evaluative resources across stages

A salient feature of the texts was the shifting of register across stages within the whole presentations, with the biggest shifts occurring at the boundaries of set-up and research warrant, and research warrant and procedure. There was intense saturation of Affect in the bookending aet-up and terminate stages, and presenters' demonstration therein of 'the valued academic ideals of modesty, gratitude and appropriate self-effacement' (Hyland 2004). Set-Up and Terminate stages are characterised by explicitly inscribed and saturated Affect which negotiates the social relationship between presenter and audience in the room. The presentations proper were much more detached. Analyses show that the texts generally shifted from a more writerly register in the Research warrant to a more speakerly register in the Methods. Dialogism was engendered by presenters' clarification of certain technical concepts in parenthetical asides, offering brief concrete definitions for a general/outsider rather than expert/insider audience. These instances were clarification, rather than the much more common forms of elaboration which offer an example or subcategory of the term. For example, in Text A, the presenter clarifies the meaning of 'post-operative survival': *'radical surgery in this group offered better post-operative survival, as in a lesser risk of revision surgeries.'* In terms of engagement, such clarification both anticipates and construes that the audience might not know that *post-operative survival* relates to the success of a procedure rather than to literal survival. The presenter's expert status is bolstered. In addition, it draws attention to the term, invoking upscaled Force. Spontaneous clarification of technical terms was observed in the more 'interactive' texts – multiply in Text A, Text B, and once in Text D – and not in the written or writerly texts, that is B2, C and C2. The lack of technical clarification in Text E likely reflects the texts' disciplinary status (i.e. horizontal knowledge structure, with

relatively fewer obscure technical terms needing clarification). Questions are inherently heteroglossic, thus we might expect that research proposals, which are 'driven' by research questions rather than research results, contain dialogic expansion when the author describes their own proposed research. However, despite the stated requirement in guidelines for explicit research questions, two presenters did not include questions, and did not appear to need them. Rather, C presented her research focus as a blend of contractive and expansive heterogloss and monogloss, and D presented her research focus as a blend of contractive heterogloss and monogloss. Furthermore, Presenter A, who did include research questions, ultimately framed his question as a projection, and therefore as dialogically contractive, rather than as dialogically expansive. Despite the stated requirement in guidelines for explicit research questions, two presenters did not include them. While in practice the functions are not as easily interchangeable as it may seem, research questions and research hypotheses can offer essentially the 'same' content, with flipped speech function. Across the presentations, Procedure stages were more speech-like than the preceding stage. Weissberg (1993) reported that recited content was most jarringly ill-fitting in the context of Methods. Methods function to legitimise scientific research by demonstrating appropriate study design and adherence to accepted procedures (Cargill & O'Connor, 2013, p.37). Methods in real life are complex, dirty, and time-consuming; methods in written articles are neat little lists and summaries highly condensed, depersonalised, 'abstracted reformulations of final outcomes in which an enormous amount is taken for granted' (Swales 1990:120-21). Any procedure previously published is simply cited; and human agency is grammatically minimised or eliminated as a compressing device to avoid repetition of unnecessary information (Cargill & O'Connor, 2013:41). It has been reported that methods described in research presentations tend to be discussed more congruently, including active verb forms and the inclusion of the researcher as agent (Biber 2006). In this cohort of texts, methods were indeed formulated in the active voice; personal pronoun use, however, tended towards plural rather than singular, as only one presenter out of five favoured 'I' over 'we'.

Different persuasive strategies were utilised by the presenters. Construing the research warrant via reporting genre frames the proposed research as a 'missing piece'; construing the research warrant via discussion genre frames the proposed

research as an evaluation of competing positions, 'A versus B'. The strategic deployment of one class of genre embedded within another class has been observed in highly-rated student writing (Szenes 2017), in which embedding allowed authors to 'make a point' and construct a clear evaluation. The use of an evaluative discussion genre rather than a persuasive rebuttal genre allows an author to favour one position over another without having to do so overtly. That Presented Text C contained multiple embedded genres, while the parallel written proposal, Text C2, contained none suggests that the role of genre embedding relates to the needs of the live audience. These 'little' genres zoom in on phenomena, reporting on or explaining. Phases of describing, explaining and reporting too comprised distinct blocks embedded into larger segments within the embedded genres. Another form of zooming in which serviced the live presentation mode was presenter's apparently spontaneous clarification of certain technical concepts in parenthetical asides, breaking the fourth wall to clarify a disciplinary meaning for those present.

Within the research warrant stage, patterns of evaluation identified within the presentations showed five key types of valuation within the health sciences: un/importance; un/successfulness; risk or cost/benefit; dys/functionality, and un/healthiness. The predominance of two valuation subtypes – manifested as *cost/benefit* and *dys/function* in terms of a) the costliness of the affliction; b) the dysfunction of afflicted people, which in turn indirectly negatively appraises the affliction; and c) the cost/benefit of previous interventions and the proposed project – indicate the importance of these values in health sciences, giving literacy specialists a window into what the disciplinary supervisors and panel expect from their candidates.

Another interesting finding was that the use of affect in the presentations was restrained across all but one presentation (D). The subtypes of Appreciation identified in the presentations included significance and effectiveness. In terms of persuasion strategies in introductions, the presentations aligned with Stosic (2021)'s identification of three persuasive strategies in the initial sections of published clinical psychology journal articles reporting on randomised controlled trials. These include saturation of amplified negative appreciation of the health condition; Graduation via quantification of the affected population, and amplified either negative appreciation of common treatments for the condition OR positive appreciation of the proposed treatment investigated in the article. Stosic found that

though attitude was inscribed, most of the work of persuasion was achieved through graduation, and through intensifying modality, and quantifying in terms of amount and proximity. She found that the use of graduation is standard in these kinds of publisher articles. In terms of dialogism, Stosic demonstrates that incorporation of previously published information aligns the writer with the disciplinary community while invoking positive evaluation of the current study or negative evaluation of the condition. Indeed, statement of the statistical prevalence of a condition (or umbrella condition) is a standard part of the evaluative work of reports in health sciences and other applied sciences. As Martin (2017) points out, a focus on ideational meaning alone neglects a full picture of the disciplines. To understand the values of the disciplines, we must investigate appraisal resources, 'how they are coupled with ideation in a discipline and by whom. No discipline relies on epistemology alone' (2017: 143).

Humour and self-deprecation was notable in the texts. Hood and Forey (2005) note that while self-deprecation is effective in the context of the set-up stage of a conference presentation, where the expertise of the speaker is not in any genuine doubt, it may not be so effective for speakers in other contexts, for example, during a technically serious stage of the presentation, or by a novice or student speaker. The thesis also reveals that doctoral proposal presentations involved relatively little dialogic expansion. Other researchers noted a skew towards dialogic expansion in (grant) proposals, whereas the current research noted a contrasting skew, towards dialogic contraction. It seems likely that dialogic contraction is a feature of register, specifically in terms of a response to the needs of the audience in the room. Dialogic expansion opens up room for other voices. It is possible that this is overwhelming for a lay audience, who are new to the topic, and therefore need more clear and concrete information. As Martin and White (2005) point out, monoglossic formulations are still evaluative in their indication that the writer/speaker does not need to incorporate other voices. Clauses in the Procedure stage were consistently presented in downscaled valuer, which opened up dialogic space and imbued a sense of humility: *I will try to do x; we will attempt to z.* Studies have consistently shown disciplinary preferences for the use of personal pronouns. Most recently, Nausa (2020) finds in a corpus of doctoral presentations that choice of pronouns depends on discipline, and not individual variation, with 'soft' sciences preferring an explicit self which provides opinions, and 'hard' sciences preferring

a focus on methodologies. In the texts under observation in this thesis, in the applied health sciences, quantitative versus qualitative study design was indeed associated with the frequency of 'I': experimental studies (A, B, C) used personal pronouns more sparingly and preferred 'we'; while the qualitative action research study a slightly higher proportion, and 'I'/'we' in equal quantities. However, one presentation broke this strong tendency: the systematic review, Text E. The presenter here heavily favoured I, and incorporated the highest proportion and sheer number of personal pronouns of all the texts (57 instances), in a talk that was methodologically incomplete and highly interpersonally-oriented. While engagement types are typically shown as discrete options, some can be considered as existing on a cline. In academic writing non-integral citations without quotation marks, which are deeply integrated into the text and do not involve a reporting verb, have 'shared responsibility (Hood 2012:55), and can be interpreted as both Acknowledgement and Endorsement, as 'the source and/or propositions are presented as being uncontentious, and to some extend endorsed by the author' (Cominos 2011:198). In presentations, diagrams which are presented on slides with citation are similarly ambiguous, though further into the heteroglossial contractive range, somewhere between Endorsement, Justification and Concur. In terms of Graduation, previous research has shown that science presenters downscale numbers and figures (Rowley-Jolivet 2015). However, in the texts under observation, this was not the case. With reduced pressure to hedge, and one or two core target audience members – i.e. the supervisors – presenters use dialogically contractive resources to firmly guide the audience into alignment with the author's positions.

Slides and multimodality

In terms of the semiotic division of labour, each of the texts construed meaning across modalities, even those that minimally relied on visual elements. Rowley-Jolivet describes scientific images as a second international language of science, emphasising the multi-metafunctional roles of visual elements (2002: 38). The overlap of visual and verbal meanings in presentations is significant. As Martinec (2004) points out, a key function of multimodal texts is 'encoding information more than once' (:197). Morell (2015) found that use of a variety of modalities created particularly effective presentations, and that the use of images compensated for

verbal deficiencies. Cheung (2017) emphasises the multi-metafunctionality of stance, as author positioning is construed across multiple metafunctions. Zhao et al. (2014) point out that basing analysis of a multimodal text on linguistic meanings can be naïve. While some presentations are heavily grounded in what is spoken, with gesture and images playing a secondary role, there can also be a more equal convergence of modalities in meaning-making. The close match between the ideational and textual meanings in slides and speech in Text E created a rhetorical effect of the slides functioning as cues for the speaker. The most useful lesson to come from the analyses in this thesis may be that there is indeed little to lose, and much to gain, from dividing semiotic labour between slides and speech. 'Too much writing on slides' can in effect undermine the text's Attitudinal strategy as presenters reformulate perfectly serviceable interpersonal meanings in their speech, pulling the register in an emotive direction. Ideally, presenters can use slides to 'show', and speech to 'tell'. This is of course a challenge in the humanities and social sciences where the objects of investigation are woven from words rather than corresponding directly to any physical objects.

The use of gesture in the presentations emphasised and pointed to key information, supporting interpersonal and textual meanings. Gesture is a semiotic resource unique to spoken language. In a similar way to tone, the strength, variability and frequency of gestures index enthusiasm, spontaneity, and social dominance; when one cannot or does not need to control gesture, it will become more prominent (Martinec 2004:211). In presentations, the deployment of gesture can thus be a powerful index for key features that audiences value: passion, spontaneousness, and confidence. This aspect of meaning-making in presentations is supported by the patient, interaction-focused pedagogy of the bridging course described in this Chapter 2. The course's emphasis on frequent rehearsal and on spoken interaction between participants over the semester creates an environment in which presenters are well-practised in explaining their proposed project, and therefore more able to let go of supports such as memorisation or cue cards which may stifle effective use of gesture and intonation, leading to the production of a more highly valued text.

Contributions of this thesis

This thesis contributes to genre-based and SFL-based understandings of doctoral proposal presentations. The choice of data for exploration in this thesis represents a methodological contribution, addressing a largely occluded genre. Despite the

limitations relating to data availability and selection, it provides a thorough analysis of the discourse semantic patterns of a selection of examples of these texts. In practical terms, the findings are potentially of particular interest to those working in English for Academic Purposes, English for Research Purposes, and Academic Learning and Language more broadly. In particular, the identification and analysis of significant misalignments between educator guidance and real student texts may be useful to those working with HDRs. The use of Engagement to break down the functionality of academic speaking events also supports an approach to education which, by getting at the underpinning mechanics of interpersonal meaning, allows students more freedom to experiment, fulfil, and exploit those functions (Lau et al, 2020).

Limitations

The most significant limitation of this study relates to the data selection. The data sample is small, uneven, and not representative of all doctoral research students. Data selection choices were largely made for practical reasons and were undertaken after a major shift in study design. Other data selection choices were made for ethical reasons. The decision was made to avoid further contact with participants with requests for more information, due to the time burden this would place on participants who are inherently highly time-pressured. This has resulted in a very small number of texts available for analysis, representing a narrow and lopsided range of sub-disciplines and study design types, along with limited contextual information. Participants also skewed older and more clinically experienced than an average native-English speaking domestic student. Further research in this area would ideally incorporate a large total number of texts, and a more even span of subdisciplines/disciplines and study designs. It would also be highly valuable to obtain multiple oral texts generated by the same author; to include surveys about previous presentation experience, and to include post-performance surveys which ask participants to give insight and detail into the degree to which they deliberately used certain persuasive strategies.

Further research

Extension of the thesis ideally would target disciplinary language more closely and perhaps involve a value rating of the presentation from those both inside and outside the discipline. Extension would involve a more disciplinary restricted or expanded corpus of presentations; analysis of the written feedback to the presenter from bridging course staff and supervisors; analysis of slides obtained directly from participants rather than from the recordings; analysis of the Question and Answer session which occurs immediately after the presentation; and to additional instances of the text type.

Extension could also involve ethnographic investigation in terms of cultural backgrounds of speakers. The influence of cultural context on patterns of evaluation in texts are understood in ESP contexts, and have been explored in ethnomethodological research of writing and rhetoric (Fox 1994; Casanave 1998; Canagarajah 2003). Western writing is often characterised as preferring highly explicit and 'overconfident' evaluation, and the global dominance of English in academic publishing and Anglophone gatekeeping institutions has meant that global scholars have needed to adapt to this preference. Experienced writers working across languages often switch between different patterns of evaluation. For example, Japanese academics seamlessly increased or minimised explicit critique depending whether they were writing for English-speaking or Japanese-speaking audiences (Casanave 1998). Similarly, Chinese EAL students have been shown to use different patterns of attitudinal resources when writing in Chinese or English given the same task prompt, using less affect and judgement in Chinese (Xinghua & Thompson 2009:9). There have been explorations of the deliberate efforts of international academics to push boundaries and broaden expectations around criticality; perhaps most prominently, Canagarajah (2001; 2003; 2006), who describes the mismatch between Sri Lankan and Western expectations for evaluation, and how Sri Lankan authors negotiate incorporation and resistance of these expectations in their publications. While the current analysis does not consider issues of cultural push or pull, a well-designed interview or survey might be able to draw out issues of whether, where and to what extent presenters were consciously engaging with types of evaluation. Restriction of discipline would also be useful, as some choices are un/marked in some disciplines but not others. For example, hard science disciplines tend to pair citation with material processes, such

as *observe*, or *analyse*, whereas soft sciences couple citation with verbal processes such as *discuss* or *argue* (Hyland 1999; 2010).

Another extension would be in terms of related genres. The data included in this thesis were obtained in 2011. More than a decade later, online virtual communication made necessary by pandemic conditions is now of course commonplace, and competing slide share software such as Prezi and Keynote is freely accessible. Narrative-based subtypes of pop-science and specialist presentations have proliferated, through formats such as PechaKucha, TED talk, and Three Minute Thesis, and the expanded reach of high-speed internet capable of streaming these videos. Comparative studies of the patterns of genre embedding in these text types would be extremely interesting.

Concluding remarks

The doctoral proposal presentation represents the first major 'instant of the graduate student moving from apprentice to peer' (Weissberg 1993:26); mastery of this complex and sophisticated genre, which comprises an extended research warrant macrogenre, variable amounts of procedural detail, and involves multiple levels of genre embedding, is a tall order for any candidate. Presentation proposals have here shown to have a distinct staging, which may be translated to a templated moves structure, and distinct features which can be clarified in literacies support contexts. The analyses presented in this thesis will hopefully enhance the precision and accuracy of advice given to students as part of a genre-based or text-based curriculum (Mickan 2013) that explicitly unpacks specialised literacy practices.

References

Adams, K 2000, 'Enhancing efficacy beliefs in international postgraduate students: a pilot study', in *Proceedings of the 2000 Quality in Postgraduate Research Conference*, The University of Adelaide, 13-14 April, p. 227.

Adams K 2004, 'Modelling success: enhancing international postgraduate research students' self-efficacy for research seminar presentations', *Higher Education Research & Development*, vol. 23, Issue 2, 2004.

Aguilar, M 2004, 'The peer seminar: a spoken research process genre', *Journal of English for Academic Purposes*, vol. 3, no. 1, pp. 55-72.

Ammon, U (ed.) 2001, *The dominance of English as a language of science: effects on other languages and language communities*, Mouton de Gruyter, New York.

Archer, A 2006, 'A multimodal approach to academic "literacies": problematising the visual/verbal divide', *Language and Education*, vol. 20 no. 6, pp. 449-462.

Atai MR & Habibi P 2012, 'Genre analysis of applied linguistics research article introductions: exploring subdisciplinary variations', *Taiwan International ESP Journal*, vol. 4 no. 1, pp. 25-38.

Australian Department of Education and Training, 2014, *Selected higher education statistics: 2013 student data*. Accessed 12 June 2016 from https://education.gov.au/selected-higher-education-statistics-2013-student-data

Australian Department of Education and Training, 2016, *Selected higher education statistics: 2015 student data.* Accessed 12 June 2016 from https://education.gov.au/selected-higher-education-statistics-2013-student-data

Baldry, A & Thibault, PJ 2006, *Multimodal transcription and text analysis: a multimedia toolkit and coursebook*, Equinox, London.

Barton, D 2004, 'Directions for literacy research: analyzing language and social practices in a textually mediated world. *Language and Education*, vol. 15, pp. 92-104.

Barton, D & Hamilton, M 1998, *Local literacies: reading and writing in one community*. Routledge, London.

Barton, D. Hamilton, M & Ivanič, R (eds) 2000, *Situated literacies: reading and writing in context*. Routledge, London.

Barton, D 1994, *Literacy: an introduction to the ecology of written language*. Blackwell.

Bassey, M 1981, ‘Pedagogic research: on the relative merits of search for generalisation and study of single events’, *Oxford Review of Education*, vol. 7, no. 1, pp. 73-94.

Bawa, A, Gudmundsson, H, Jayaram, N & Kiley M 2014, 'Doctoral education in the era of globalization: experience in Australia, Iceland, India, and South Africa', in M Nerad and B Evans (eds), *Globalization and its impacts on the quality of PhD education: forces and forms in doctoral education worldwide*, Sense Publishers, Rotterdam, The Netherlands, pp. 129-159.

Becher, T. (1989), *Academic tribes and territories: intellectual enquiry and the culture of the disciplines*, McGraw Hill Education, Milton Keynes, UK

Bednarek, M & Martin, JR (eds) 2009, *New discourse on language: functional perspectives on multimodality, identity and affiliation*, Continuum, London.

Beers, SE, 1988, ‘Epistemological assumptions and college teaching: interactions in the college classroom’, *Journal of Research & Development in Education*, Vol. 21 No. 4, pp. 87-94.

Belcher, D 1994, The apprenticeship approach to advanced academic literacy: graduate students and their mentors. *English for Specific Purposes*, 13, pp. 23-24.

Berdanier, CGP 2019, ‘Genre maps as a method to visualize engineering writing and argumentation patterns’, *Journal of Engineering Education*, vol. 108, no. 3, pp. 377-393.

Berkenkotter, C & Huckin, TN 2016, *Genre knowledge in disciplinary communication: cognition/culture/power*, Routledge, Abingdon, Oxon.

Bernstein, B 1990, *The structuring of pedagogic discourse*, Routledge, London.

Bhatia, VK 1993, *Analysing genre: language use in professional settings*, Longman.

Biber, D 2006, *University language : a corpus-based study of spoken and written registers*, Benjamins, Amsterdam.

Biber, D, Conrad, S, Reppen, R, Byrd, P & Helt, M 2002, ‘Speaking and writing in the university: a multidimensional comparison’, *TESOL Quarterly*, vol. 36, no. 1, pp. 9-48.

Biglan, A 1973 ‘The characteristics of subject matter in different academic areas’, *Journal of Applied Psychology*, vol. 57 no. 3, pp. 195-203.

Birrell, B 2006, ‘Implications of low English standards among overseas students at Australian universities’. *People and Place*, *14*(4), pp. 53-54. http://search.informit.com.au/documentSummary;dn=332480460154352;res=IELHSS

Birrell, B & Healy, E 2008, ‘How are skilled migrants doing?’ *People and Place*, *16*(1), pp. 1-20.

Bizzell, P 1992, *Academic discourse and critical consciousness*, Pittsburgh: University of Pittsburgh Press.

Blackwell, JW & White, PRR 2018,'The building blocks of speech: spontaneity, pre-packaging and the genre structuring of university lectures', *Text & Talk*, vol. 38, no. 3, pp. 267-290.

Bloor, T. & Bloor, M 2013, *The functional analysis of English: a Hallidayan approach*, 3rd edn, Routledge, London.

Blunden, J 2020, 'Adding "something more" to looking: the interaction of artefact, verbiage and visitor in museum exhibitions', *Visual Communication*, vol. 19, no. 1, pp. 45-71.

Bowen, HR & Schuster, JH 1986, *American professors: a national resource imperilled*, Oxford University Press, New York.

Bruce, I 2011 *Theory and concepts of English for academic purposes*, Palgrave Macmillan, Basingstoke.

Cargill, M, Burgess, S & Arnbjörnsdóttir, B 2019, 'Editorial: publishing research internationally: multilingual perspectives from research and practice', *Publications (Basel)*, vol. 7, no. 3, p. 47.

Butt, D, Fahey, K, Spinks, S & Yallop, C 1994, *Using functional grammar: an explorers guide*, Macquarie University, Sydney.

Cadman, K 2002, 'English for academic possibilities: the research proposal as a contested site in postgraduate genre pedagogy' *Journal of English for Academic Purposes*, vol.1, pp. 85-104.

Cadman, K 1997, Thesis writing for international students: a question of identity?. *English for Specific Purposes*, *16*(1), pp. 3-14.

Cadman K 2005 Towards a 'pedagogy of connection' in critical research education: a REAL story, *Journal of English for Academic Purposes, 1*(2) pp. 85-100.

Cadman, K 2000, "'Voice in the air": evaluations of the learning experiences of international postgraduates and their supervisors'. *Teaching in Higher Education*, *5* (4), 475-491.

Canagarajah, AS 1997, 'Safe houses in the contact zone: coping strategies of African American students in the academy', *College Communication and Composition*, vol. 48 No. 2, pp. 173-196.

Canagarajah, AS 1999, *Resisting linguistic imperialism in English teaching* . Oxford University Press, Oxford UK.

Cargill, M 1996, An integrated bridging program for international postgraduate students, *Higher Education Research and Development*, *15*(2), 177-188.

Cargill, M 2004,'Transferable skills within research degrees: a collaborative genre-based approach to developing publication skills and its implications for research education', *Teaching in Higher Education*, vol. 9, no. 1, pp. 83-98.

Cargill, M, Cadman, K & McGowan, U 2001, 'Postgraduate writing: using intersecting genres in a collaborative content-based program', in I Leki (ed.), *Case studies in TESOL: academic writing programs*, pp. 85-96.

Cargill, M & Cadman, K 2005, 'Revisiting quality for international research education: towards an engagement model'. Paper presented at the *Australian universities quality forum: engaging communities* conference, Sydney, Australia.

Cargill, M & O'Connor, P 2006, 'Getting research published in English: towards a curriculum design model for developing skills and enhancing outcomes', *Revista Canaria de Estudios Ingleses*, vol. 53, p. 79.

Carter-Thomas, S & Rowley-Jolivet, E 2003, 'Analysing the scientific conference presentation (CP): a methodological overview of a multimodal genre' *ASp*, vol. 39 no. 40, pp. 59-72.

Carter-Thomas, S & Rowley-Jolivet, E 2020, 'Three-minute thesis presentations: recontextualisation strategies in doctoral research', *Journal of English for Academic Purposes*, vol. 48, p. 100897.

Chang, YJ 2011, 'Picking one's battles: NNES doctoral students' imagined communities and selections of investment', *Journal of Language, Identity & Education, 10*(4), 213-230. DOI: 10.1080/15348458.2011.598125

Chang, YJ. & Kanno, Y 2010, 'NNES doctoral students in English-speaking academe: The nexus between language and discipline', *Applied Linguistics*, *31*(5), pp. 671–692.

Cheng, YH 2014, 'Dissertation grant proposals as "writing games": An exploratory study of two L2 graduate students' experiences', *English for Specific Purposes*, vol. 36, no. 1, pp. 74–84.

Cheung, LME 2017, 'Managing interpersonal 'punches' in postgraduate academic writing', *International Conference on English for Specific Purposes 2017*, The Hong Kong Polytechnic University, Hong Kong, 7 December 2017.

Cheung, LME 2017, 'Development of evaluative stance and voice in postgraduate academic writing'. unpublished PhD thesis, Hong Kong Polytechnic University, Hong Kong.

Chew, J 2021, 'Australian university science on the global stage: trends, scenarios and shifting student preferences', Australian Council of Deans of Science 2021 AGM keynote https://www.acds.edu.au/wp-content/uploads/Road-to-Recovery-Mark-4-ACDS-AGM-Jon-Chew.pdf

Christie, F. 2012 *Language education throughout the school years: a functional perspective,* University of Michigan. Hoboken: Wiley-Blackwell.

Christie, F & Derewianka, B 2008, *School discourse: learning to write across the years of schooling*. Continuum, London.

Christie, F & Martin, JR (eds) 1997, *Genre and institutions: social processes in the workplace and school*, Cassell, London.

Ciampa, K & Wolfe, ZM 2020, 'From isolation to collaboration: creating an intentional community of practice within the doctoral dissertation proposal writing process', *Teaching in Higher Education*, pp. 1-17.

Cloran, C 1993, 'Rhetorical units and decontextualisation: an enquiry into some relations of context, meaning and grammar' unpublished PhD thesis, Nottingham University, Nottingham UK.

Cobb, T 1997, *The compleat lexical tutor* [website] University of Montreal, Quebec. Retrieved on 10 February, 2021 from <lextutor.ca>.

Coffin, C & Donohue, J 2014, *A language as social semiotic-based approach to teaching and learning in higher education*, Wiley, Malden MA.

Crismore, A & Vande Kopple, WK 1988, Readers' learning from prose: the effects of hedges. *Written Communication, 5*(2), pp.184-202.

Department of Immigration and Citizenship (DIAC), 2011, 'Student visa program quarterly report'. http://www.immi.gov.au/media/statistics/study/_pdf/student-visa-program-report-2011-06-30.pdf

DeWalt, KM, DeWalt, BR & Wayland, CB 1998, 'Participant observation', In HR Bernard (ed.), *Handbook of methods in cultural anthropology*, pp: 259-299. AltaMira Press, Walnut Creek, CA.

Dressen-Hammouda, D 2014, 'Measuring the voice of disciplinarity in scientific writing: a longitudinal exploration of experienced writers in geology', *English for Specific Purposes*, vol. 34, pp. 14-25.

Duarte, N 2012 'The secret structure of great talks', *TEDx*. Retrieved from https://www.ted.com/talks/nancy_duarte_the_secret_structure_of_great_talks

Dubois, B 1980, 'The use of slides in biomedical speeches', *The ESP Journal*, vol. 1, pp. 45-50.

Duff, P 2002, 'The discursive co-construction of knowledge, identity, and difference: an ethnography of communication in the high school mainstream'. *Applied Linguistics*, vol. 23, pp. 289-322.

Duff, P 2007, 'Second language socialization as sociocultural theory: insights and issues'. *Language Teaching, 40*, 309-319.

Duff, P 2007, *Case study research in applied linguistics*, Lawrence Erlbaum Associates, New York.

Duff, P 2007, 'Problematising academic discourse socialization', in H Marriott, T Moore, R Spence-Brown (eds), *Learning discourses and the discourses of learning*, Monash University e-Press, University of Sydney Press, pp. 1-18.

Duff, P 2008, 'Language socialization, higher education, and work', in P Duff & N Hornberger (eds.) *Language socialization: encyclopedia of language and education*, vol. 8, Springer, Boston.

Duff, P 2010, 'Language socialisation into academic discourse communities', *Annual Review of Applied Linguistics*, vol. 30, pp. 169-192.

Easton, K L 2000, 'Avoiding common pitfalls in qualitative data collection and transcription'. *Qualitative Health Research, 10*(5), p. 703.

Eggins, S 2004, *An introduction to systemic functional linguistics* (2nd edn), Pinter, UK.

Eggins, S & Slade, D 1997 *Analysing casual conversation*. Cassell, London.

Ellery, K 2008, 'Undergraduate plagiarism: a pedagogical perspective'. *Assessment and Evaluation in Higher Education, 33*(5), p. 507.

Enders, J 2002, 'Serving many masters: the PhD on the labour market, the everlasting need of inequality, and the premature death of Humboldt', *Higher Education, 44*, pp. 493-517.

Fairclough, N 1989, *Language and power*. Longman, Harlow, UK.

Fazel, I & Shi, L 2015, 'Citation behaviors of graduate students in grant proposal writing', *Journal of English for Academic Purposes*, vol. 20, pp. 203-214.

Feng H & Shi L (2004), 'Genre analysis of research grant proposals', *LSP & Professional Communication'* vol. 4, pp. 8-32.

Felix, U & Lawson, M 1994, 'Evaluation of an integrated bridging course on academic writing for overseas postgraduate students'. *Higher Education Research & Development, 13*(1), pp. 56-69.

Ferguson, A 2010, 'Appraisal in student-supervisor conferencing: a linguistic analysis', *International Journal of Language & Communication Disorders, 45*(2), p. 215.

Flowerdew, J 2019, 'The linguistic disadvantage of scholars who write in English as an additional language: myth or reality', *Language Teaching*, vol. 52, no. 2, pp. 249-260.

Flowerdew, J & Peacock, M 2001, *Research perspectives on English for academic purposes* , Cambridge University Press, Cambridge.

Flowerdew L 2004, 'The argument for using English specialized corpora to understand academic and professional language', In U Connor and T Upton (eds)

Discourse in the profession: perspectives from corpus linguistics, John Benjamins, Amsterdam (pp. 11-33).

Fortanet, I 2004, 'The use of 'we' in university lectures: reference and function', *English for Specific Purposes*, vol. 23 pp. 45-66.

Gardner, S 2012, 'Genres and registers of student report writing: an SFL perspective on texts and practices', *Journal of English for Academic Purposes*, vol. 11, no. 1, pp. 52-63.

Gee, JP. 1990, *Social linguistics and literacies: ideology in discourses*, Falmer Press, London.

Gee, JP 2000, 'Identity as an analytic lens for research in education'. *Review of Research in Education, 25*, 99-125.

Gilgun, JF 2005, '"Grab" and good science: writing up the results of qualitative research', *Qualitative Health Research*, vol. 15, no. 2, pp. 256-262.

Gillett, A 2021, 'Speaking genres', accessed 3 October 2021. http://www.uefap.net/speaking/speaking-genres/speaking-genres-intro

Goffman, E 1981, *Forms of talk*, University of Pennsylvania Press, Philadelphia.

Grant, B 2000, 'Pedagogical issues in research education' in *Quality in postgraduate research: making ends meet*. *Proceedings of the 2000 Quality in Postgraduate Research Conference Adelaide April 13-14*, University of Adelaide, Adelaide, pp. 31-34.

Gu, Y, Zheng, Y & Swerts, M 2019, 'Which is in front of Chinese people, past or future?: The effect of language and culture on temporal gestures and spatial conceptions of time', *Cognitive Science*, vol. 43, no. 12, p. e12804–n/a..

Guerin, C & Green, I 2012, 'Voice as a threshold concept in doctoral writing' in *Narratives on transition: perspectives of research leaders, educators and postgraduates, Conference proceedings of 10th Quality in Postgraduate Research Conference*, Adelaide, pp. 197-199.

Guerin, C & Picard, M 2012, '"Try it on": voice, concordancing and text-matching in doctoral writing', *International Journal for Educational Integrity*, vol. 8, no. 2, pp. 34-45.

Gurr, GM 2001, 'Negotiating the "rackety bridge": a dynamic model for aligning supervisory style with research student development', *Higher Education Research and Development*, *20*(1), pp. 81-92.

Halliday, MAK 1978, *Language as social semiotic: the social interpretation of language and meaning*, Edward Arnold, London.

Halliday, MAK 1985a, *Spoken and written language*, Deakin University Press, Melbourne.

Halliday, MAK 1985b, *Language, context and text: aspects of language as social semiotic*. Deakin University Press, Geelong, Vic.

Halliday, MAK 2000, *An introduction to functional grammar* (2nd edn.) Arnold, London.

Halliday, MAK 1988, 'On the language of physical science', In M Ghadessy, *Registers of written English: situational factors and linguistic features*. OLS, London, pp. 162-178).

Halliday, MAK 2003, 'On the "architecture" of human language'. In *On language and linguistics. The collected works of MAK Halliday* vol. 3 p. 29, Equinox, London.

Halliday, MAK & Greaves, WS 2008, *Intonation in the grammar of English*. Equinox, London.

Halliday, MAK & Martin, J 1993, *Writing science: literacy and discursive power*. University of Pittsburgh Press, Pittsburgh.

Halliday, MAK & Matthiessen, CMIM 2004, *Introduction to functional grammar*. 3rd edn, Edward Arnold, London.

Hansen, KE, Wolff, AE & Jones, AN 2008, 'Vitamin D and musculoskeletal health', *Nature Clinical Practice. Rheumatology*, vol. 4, no. 11, pp. 580-588.

Hao, J 2018, 'Reconsidering "cause inside the clause" in scientific discourse – from a discourse semantic perspective in systemic functional linguistics', *Text & Talk*, vol. 38, no. 5, pp. 525-550.

Hao, J 2015, *Construing biology: an ideational perspective.* Unpublished PhD thesis. The University of Sydney, Sydney.

Hao, J & Hood, S 2019, 'Valuing science: the role of language and body language in a health science lecture', *Journal of Pragmatics*, vol. 139, pp. 200-215.

Hao, J & Humphrey S 2012, 'The role of "coupling" in biological experimental reports', *Linguistics and the Human Sciences 5* (2), pp. 160-94.

Hao, J & Humphrey, SL 2019, 'Reading nominalizations in senior science', *Journal of English for Academic Purposes*, vol. 42, p. 100793.

Hirvela, A & Belcher, D 2001, 'Coming back to voice: the multiple choices and identities of mature multilingual writers', *Journal of Second Language Writing, 10* (1/2), pp. 83-106.

Hjelmslev, L 1961. *Prolegomena to a theory of language*. University of Wisconsin Press, Madison.

Hood, S 2010, *Appraising research: evaluation in academic writing*, Palgrave, London.

Hood, S 2006, 'The persuasive power of prosodies: radiating values in academic writing', *Journal of English for Academic Purposes*, vol. 5, issue 1, pp. 37-49.

Hood, S 2008, 'Summary writing in academic contexts: implicating meaning in processes of change', *Linguistics and Education*, vol. 19, no. 4, pp. 351-365.

Hood, S 2010, *Appraising research: evaluation in academic writing*, Palgrave, London.

Hood, S 2011, 'Body language in face-to-face teaching: a focus on textual and interpersonal metafunctions', in S Dreyfus, S Hood & M Stenglin (eds), *Semiotic margins: meaning in multimodalities*, Continuum, London, pp. 31-52.

Hood, S 2012, 'Voice and Stance as APPRAISAL: persuading and positioning in research writing across intellectual fields' in K Hyland and CS Guinda (eds), *Stance and voice in written academic genres*, Palgrave, London, pp. 51-68.

Hood, S 2017. 'Live lectures: the significance of presence in building disciplinary knowledge', *Onomázein,(Número especial)*, pp. 179-208. fecha de Consulta, 26 September 2020. ISSN: 0717-1285 [en línea].

Hood, S & Forey, G 2005, 'Introducing a conference paper: getting interpersonal with your audience', *Journal of English for Academic Purposes*, vol. 4, no. 4, pp. 291-306.

Hood, S & Forey, G 2008, 'The interpersonal dynamics of call-centre interactions: co-constructing the rise and fall of emotion', *Discourse & Communication*, vol. 2, no. 4, pp. 389-409.

Hood, S & Lander, J 2016, 'Technologies, modes and pedagogic potential in live versus online lectures', *International Journal of Language Studies*, *10*(3), pp. 23-42.

Hood, S & Maggiora, P 2016, 'The lecturer at work: language, the body and space in the structuring of disciplinary knowledge in law' in H. de Silva Joyce (ed.): *Language at work*, Cambridge Scholars Publishing, Newcastle-upon-Tyne, pp. 108-128.

Hu G & Liu Y 2018, 'Three-minute thesis presentations as an academic genre: a cross-disciplinary study of genre moves' *Journal of English for Academic Purposes*, 35, pp. 16-20.

Hyland, K 1996, 'Writing without conviction? Hedging in science research articles', *Applied Linguistics*, *17*(4), pp. 433-454.

Hyland, K 2005, *Metadiscourse: exploring interaction in writing*, Continuum, London

Hyland, K 2007, 'Genre pedagogy: language, Literacy and L2 writing instruction'. *Journal of Second Language Writing*, *16*, pp. 148-164.

Hyland, K 2017, 'Metadiscourse: What is it and where is it going?', *Journal of Pragmatics*, vol. 113, pp. 16-29.

Hyland, K & Hamp-Lyons 2002, 'EAP: issues and directions'. *Journal of English for Academic Purposes 1*(1) 1-12.

Hyon, S 1996, 'Genre in three traditions: implications for ESL', *TESOL Quarterly 30*(4), pp. 693-722.

Ivanič, R 1998, *Writing and identity: the discoursal construction of identity in academic writing*, John Benjamins

Iverson JM, Capirci O, Volterra V, Goldin-Meadow S. Learning to talk in a gesture-rich world: Early communication in Italian vs. American children. *First Language*. 2008;28(2):164-181.

Jacoby, S & Gonzales, P 1991, 'The constitution of expert-novice in scientific discourse', *Issues in Applied Linguistics* vol. 2, pp. 149-181.

Jewitt, C (ed) 2009,*Handbook of multimodal analysis*, Routledge, London.

Jewitt, C 2009, 'An introduction to multimodality', in C Jewitt (ed.) *The Routledge handbook of multimodal analysis*. Routledge, London.

Karimi, MN 2014, 'Disciplinary variations in English domain-specific personal epistemology: insights from disciplines differing along Biglan's dimensions of academic domains classification', *System (Linköping)*, vol. 44, no. 1, pp. 89-100.

Kendon, A 2004, *Gesture: visible action as utterance*, Cambridge University Press, Cambridge.

Kiley, M 2014, 'Just do it: Why get distracted by courses and workshops in the PhD?' Presentation at the Australian National University, Wednesday 18 June, 2014.

Kiley, M & Liljegren, D 1999, 'Discipline-related models for a structured program at the commencement of a PhD'. *Teaching in Higher Education*, *4*(1), pp. 61-75

Konzett, C 2012, *Any questions? Identity construction in academic conference discussions*, Trends in Applied Linguistics series, Vol. 14, Walter de Gruyter.

Kress, G 2000). 'Multimodality: challenges to thinking about language'. *TESOL Quarterly*, *34*, pp. 337-340.

Kress, G et al. 2005, *Urban classrooms, subject English: multimodal perspectives on teaching and learning*, Routledge Falmer, London.

Kress, G & van Leeuwen, T 2001, *Multimodal discourse: the modes and media of contemporary communication*. Arnold, London.

Kress, G & Van Leeuwen, T 2006 [1996], *Reading images: the grammar of visual design*. Routledge, London.

Lapadat, JC &Lindsay, AC, 'Transcription in research and practice: from standardization of technique to interpretive positionings', *Qualitative Inquiry*, *5*(1), p. 64.

Lau, K, Lin, C-Y & Odle, E 2020, '"I am just saying maybe ...": Engagement in dissertation defenses', *Language and Education*, vol. 35, no. 1, pp. 1–21.

Laurance, W, Useche, C, Laurance, S & Bradshaw, C 2013, 'Predicting publication success for biologists', *BioScience*, vol. 63 No. 10, pp. 817-823.

Lave, J & Wenger, E 1991, *Situated learning: legitimate peripheral participation*, Cambridge University Press, Cambridge.

Le Ha, P 2009, 'Strategic, passionate, but academic: Am I allowed in my writing?', *Journal of English for Academic Purposes*, vol. 8, no. 2, pp. 134-146.

Lea, M & Street, B 1998, 'Student writing in higher education: an academic literacies approach' *Studies in Higher Education*, vol. 23 No.2, pp. 157-172.

Lea, MR & Street, BV 2006, 'The 'Academic Literacies' model: theory and applications', *Theory into Practice*, *45*(4), pp. 368-377.

Lee, G 2009, 'Speaking up: six Korean students' oral participation in class discussions in US graduate seminars', *English for Specific Purposes*, *28*(3), pp. 142-156.

LeVine, P & Scollon, R (Eds.) 2004, *Discourse & technology: multimodal discourse analysis*. Georgetown University Press, Washington DC.

Li, Y, Flowerdew, J & Cargill, M 2018, 'Teaching English for research publication purposes to science students in China: a case study of an experienced teacher in the classroom', *Journal of English for Academic Purposes*, vol. 35, pp. 116-129.

Li, Y, Xiaohao Ma, Jing Zhao, Jiehui Hu 2020, 'Graduate-level research writing instruction: two Chinese EAP teachers' localized ESP genre-based pedagogy', *Journal of English for Academic Purposes*, vol. 43.

Lillis, T 2003, 'Student writing as "academic literacies": drawing on Bakhtin to move from critique to design'. *Language and Education*, *17*(3), 192-216.

Lillis, T & Scott, M 2007, 'Defining academic literacies research: issues of epistemology, ideology and strategy', *Journal of Applied Linguistics*, *4*(1), pp. 5-32.

Lindemann, S & Mauranen, A 2001, '"It's just real messy": the occurrence and function of "just" in a corpus of academic speech', *English for Specific Purposes*, vol. 20, no. 1, pp. 459-475.

Mahboob, A, Dreyfus, S, Humphrey, S & Martin, J 2010, 'Appliable linguistics and English language teaching: the scaffolding literacy in adult and tertiary environments (SLATE) project'. In A. Mahboob and N. Knight (eds), *Directions in Appliable Linguistics*, Continuum, London.

Manathunga, C. (2005). 'Early warning signs in postgraduate research education: a different approach to ensuring timely completions', *Teaching in Higher Education, 10*(2), pp. 219-233.

Mann, WC & Thompson, SA 1988, 'Rhetorical structure theory: toward a functional theory of text organization' *Text,* vol.8, pp. 243-281.

Marr, JW 2019, 'Making the mechanics of paraphrasing more explicit through grammatical metaphor', *Journal of English for Academic Purposes*, Volume 42, p. 100783.

Martin, JR 1992, *English text: system and structure*, Benjamins, Amsterdam.

Martin, JR 2000, 'Close reading: functional linguistics as a tool for critical discourse analysis' In L. Unsworth (ed.), *Researching language in schools and communities: functional linguistic perspectives*, Cassell, London, pp. 275-302.

Martin, JR 2009, 'Genre and language learning: a social semiotic perspective'. *Linguistics and Education*, *20*, pp. 10-29.

Martin, JR, Matthiessen, CMIM & Painter, C 1997, *Working with functional grammar*. Hodder Arnold Publication.

Martin, JR. & Rose, D 2007, *Working with discourse: meaning beyond the clause*, 2nd edn., Equinox, London.

Martin, JR, & Rose, D 2008, *Genre relations: mapping culture*, Equinox, London.

Martin, JR & White, PRR 2005, *The language of evaluation: appraisal in English*. Palgrave MacMillan, Basingstoke.

Martinec, R 2000a, 'Types of process in action', *Semiotica*, vol. 130, (3/4), pp. 243-68.

Martinec, R 2000b, 'Rhythm in multimodal texts'. *Leonardo*, *33*(4), pp. 289-97.

Maton, K 2013, 'Making semantic waves: a key to cumulative knowledge-building', *Linguistics and Education*, vol. 24, no. 1, pp. 8-22.

Matsuda, PK & Tardy, CM 2007, 'Voice in academic writing: the rhetorical construction of author identity in blind manuscript review', *English for Specific Purposes*, vol. 26, no. 2, pp. 235-249.

Matthiessen, C, Teruya, K & Lam, M 2010, *Key terms in systemic functional linguistics*. Continuum, London.

Matzler, PP 2021, 'Grant proposal abstracts in science and engineering: a prototypical move-structure pattern and its variations', *Journal of English for Academic Purposes*, vol. 49, pp. 100938–.

Mauranen, A 2002, '"A good question": expressing evaluation in academic speech', in G Cortese & P Riley (eds) *Domain-specific English: textual practices across communities and classrooms*, Peter Lang, Oxford, pp. 115-140.

Mauranen, A 1993, 'Contrastive ESP rhetoric: metatext in Finnish–English economics texts', *English for Specific Purposes,* Vol. 12 No.1, pp. 3-22.

McAlpine, L & Norton, J 2006, 'Reframing our approach to doctoral programs: an integrative framework for action and research', *Higher Education Research & Development,* Vol. 25 No. 1, pp. 3-17.

Mcgowan, U, Seton, J & Cargill, M 1996, 'A collaborating colleague model for inducting international engineering students into the language and culture of a foreign research environment' *IEEE Transactions on Professional Communication, 39*(3), pp.117-121.

Mehan, H 1979, '"What time is it, Denise?": Asking known information questions in classroom discourse', *Theory into Practice,* vol. 18, pp. 285-294.

Mežek, Š., and J. Swales. 2016. 'PhD Defences and Vivas.' In *The Routledge Handbook of English for Academic Purposes,* edited by K. Hyland and P. Shaw, 361–375. London: Routledge.

Mickan, P 2004, 'Teaching strategies', in C. Conlan (ed.), *Teaching English language in Australia: theoretical perspectives and practical issues*, API Network, Perth, pp. 193-214.

Mickan, P 2007, 'Doing science and home economics: curriculum socialisation of new arrivals to Australia', *Language and Education*, vol. 21, no. 1, pp. 1-17.

Mickan, P 2012, *Language curriculum design and socialisation,* Multilingual Matters, Bristol, UK.

Mickan, P & Lopez, E 2017, *Text-based research and teaching : a social semiotic perspective on language in use* , Palgrave Macmillan, London.

Mitchell, S 2010, '"Now you don't see it; now you do": writing made visible in the university', *Arts and Humanities in Higher Education*, vol. 9, no. 2, pp. 133-148.

Molinsky, AL, Krabbenhoft, MA, Ambady, N & Choi, YS 2005, 'Cracking the Nonverbal Code: Intercultural Competence and Gesture Recognition Across Cultures', *Journal of Cross-Cultural Psychology*, vol. 36, no. 3, pp. 380–395.

Morell, T 2015,'International conference paper presentations: a multimodal analysis to determine effectiveness', *English for Specific Purposes*, vol. 37, pp. 137-150.

Morita, N 2000, 'Discourse socialization through oral classroom activities in a TESL graduate program', *TESOL Quarterly*, vol. 34, pp. 279-310.

Morita, N 2004, 'Negotiating participation and identity in second language academic communities', *TESOL Quarterly*, vol. 38, pp. 573-603.

Morton, J & Rosse, M 2011, 'Persuasive presentations in engineering spoken discourse', *Australasian Journal of Engineering Education*, *17*, pp. 55-64.

Morton, J 2009, 'Genre and disciplinary competence: A case study of contextualisation in an academic speech genre', *English for Specific Purposes* vol. 28, no. 4, pp. 217-229.

Munhall, PL 1988,'Ethical considerations in qualitative research', *Western Journal of Nursing Research*. *10*(2), pp. 150-162.

Myers G 1985, 'The social construction of two biologists' proposals'. *Written Communication, 2*(3), pp. 219-245.

Nausa, R 2017, 'Syntactic mechanisms in the transition from academic written to oral discourses', *Colombian Applied Linguistics Journal*, vol. 19, no. 2, pp. 234-249.

Nausa, R 2019, 'Modality and code glosses to transition from academic written to oral discourses: an exploratory study' *Íkala-Revista de Lenguaje y Cultura*, *24*(1), pp. 51-67.

Nausa, R 2020, 'Identity projection in the oral presentations of Colombian PhD students: disciplinary differences', *System (Linköping)*, vol. 94, p. 102351.

New London Group 1996, 'A pedagogy of multiliteracies: designing social futures', *Harvard Educational Review*, *66*, pp. 60-92.

Norris, S 2004, *Analyzing multimodal interaction: a methodological framework*. London: Routledge.

Nystrand, M 1982, *What writers know: the language, process, and structure of written discourse*, Academic, New York.

O'Halloran, K (Ed.) 2004, *Multimodal discourse analysis*, Continuum, London.

Pascual, M & Unger, L 2010, 'Appraisal in the research genres: an analysis of grant proposals by Argentinean researchers', *Revista Signos*, vol. 43, no. 73, pp. 261-280.

Paulsen, MB & Wells, CT 1998, 'Domain differences in the epistemological beliefs of college students', *Research in Higher Education*, vol. 39, no. 4, pp. 365-384.

Pearson, M, Cumming, J, Evans T, Macauley P & Ryland K 2011, 'How shall we know them? Capturing the diversity of difference in Australian doctoral

candidates and their experiences', *Studies in Higher Education,* Vol. 36, No. 5, pp. 527-542.

Pecorari, D 2008, *Academic writing and plagiarism: a linguistic analysis* Continuum, London.

Perez, MA & Macia, IA 2002, Metadiscourse in lecture comprehension: Does it really help foreign language learners?' *Allantis*, vol. 14 No. 2, pp. 3-21.

Picard, M., Warner, R & Velautham, L 2011, 'Enabling postgraduate students to become autonomous ethnographers of their disciplines'. In C Nygaard, N Courtney & L Frick (eds) *Postgraduate Education: form and Function,* Libri Publishing, pp. 149-166.

Picard, M & Russel, R 2011 'A model of research education that facilitates international research collaboration and internationalization of the curriculum' in *Competition and cooperation among universities in the age of internationalization. Proceedings of the AC21 International Forum 2010*.

Picard, M, Warner, R & Velautham, L 2011, 'Enabling postgraduate students to become autonomous ethnographers of their disciplines', in C Nygaard, N Courtney & L Frick (eds) *Postgraduate education: form and function*, Libri, London, pp. 149-166.

Poland, BD 1995, 'Transcription quality as an aspect of rigor in qualitative research'. *Qualitative Inquiry* (1077-8004), *1*(3), p. 290.

Postacchini, F & Cinotti, G 1999, 'Surgical failures'. In *Lumbar disc herniation.* Springer, Vienna. https://doi.org/10.1007/978-3-7091-6430-3_22

Poyatos Matas, C 2012, 'Doctoral education and skills development: an international perspective', *REDU, Revista de Docencia Universitaria Número monográfico dedicado a las Competencias docentes en la Educación Superior*, *10*(2), pp. 163-191.

Pratt, ML 1991, 'Arts of the contact zone', *Profession*, vol. 91, pp. 33-40.

Richardson, S 2015). 'Australian postgraduate research student international mobility: research report 2015' http://research.acer.edu.au/higher_education/46

Riekkinen, N. 2010. "This is Not Criticism, but…" Softening Criticism: The Use of Lexical Hedges in Academic Spoken Interaction." *Helsinki English Studies* 6: 75–87.

Rose, D 2006, 'Reading genre: a new wave of analysis', *Linguistics and the Human Sciences*, *2*(2), pp. 185-204.

Rose, D 2008, Writing as linguistic mastery: the development of genre-based literacy pedagogy, in D Myhill, D Beard, M Nystrand & J Riley, *Handbook of writing development*, Sage, London, pp.151-166.

Rothery, J & Stenglin, M 1994, 'Exploring literacy in school English' Write it right resources for literacy and learning, Metropolitan East Disadvantaged School Program, Adult Migrant Education Service, Sydney.

Rothery, J 1996, 'Making changes: developing an educational linguistics'. in R Hasan & G Williams (eds), *Literacy in society*, Longman, London, (pp. 86-123).

Rowley-Jolivet, E 1999 'The pivotal role of conference papers in the network of scientific communication', *Asp La Revue des Geras*, nos. 23-26, pp. 179–196.

Rowley-Jolivet, E 2002, 'Science in the making: scientific conference presentations and the construction of facts', in E Ventola, C Shalom & S Thompson (eds), *The language of conferencing*, Peter Lang, Frankfurt, pp. 95-125.

Rowley-Jolivet, E 2015, 'Quantification in conference talks and proceedings articles in engineering', *English for Specific Purposes* vol. 38, pp. 11-22.

Rowley-Jolivet E & Carter-Thomas S 2005, 'Genre awareness and rhetorical appropriacy: manipulation of information structure by NS and NNS scientists in the international conference setting', *English for Specific Purposes*, vol. 24, pp. 41-64.

Royce, T 1999, 'Visual-verbal intersemiotic complementarity in The Economist magazine'. Unpublished doctoral dissertation, University of Reading, UK.

Royce, T 2002, 'Multimodality in the TESOL Classroom: exploring visual-verbal synergy'. *TESOL Quarterly*, vol. 36, pp. 191-205.

Ruthrof, H 1997, *Semantics and the body: meaning from Frege to the postmodern*. University of Toronto Press. Toronto.

Sacks, H, Schegloff, EA & Jefferson, G 1974, 'A simplest systematics for the organization of turn-taking for conversation', *Language* vol. 50, pp. 696-735.

Samraj, B 2002, 'Introductions in research articles: variations across disciplines', *English for Specific Purposes*, vol. 21, no. 1, pp. 1-17.

Schleef, E 2008, 'Gender and academic discourse: global restrictions and local possibilities', *Language in Society, 37*(4), pp. 515-538.

Schleppegrell, MJ 2004a, 'Technical writing in a second language: the role of grammatical metaphor', in LJ Ravelli & RA Ellis, (eds) *Analysing academic writing:a contextualized framework*, Continuum, New York, pp. 173-189.

Schleppegrell, MJ. 2004b, *The language of schooling: a functional linguistics perspective*, Lawrence Erlbaum Associates, London.

Schneider, Z & Fuller, J 2018, *Writing research proposals in the health sciences: a step-by-step guide*, SAGE Publications, London.

Sheridan-Rabideau, MP, McLaughlin, R & Novak, J 2002, 'Contested knowledge: technological literacies and the power of unacknowledged disciplinary investments', *Computers and Composition,* vol. 19, pp. 347-359.

Shinew, D & Moore, T 2010, 'Exploring epistemological diversity in a doctoral seminar', in SK Gardner & P Mendoza (eds) *On becoming a scholar: socialization and development in doctoral education*, Stylus Publishing, Sterling, VA, pp. 243-264.

Siddle, D 1997, 'Submission to the committee conducting the review of higher education financing and policy', Council of Deans and Directors of Graduate Education, 23 April.

Smith, B 2000, 'The challenge of making ends meet in postgraduate research training', in *Quality in postgraduate research: making ends meet. Proceedings of the 2000 Quality in Postgraduate Research Conference Adelaide April 13-14* The Advisory Centre for University Education, University of Adelaide, pp. 25-30.

Stegen, Oliver 2007, 'Lexical density in oral versus written *Rangi* texts', *SOAS Working Papers in Linguistics*, vol. 15, pp. 173-184.

Sterne, J 2003, *The audible past: cultural origins of sound*. Duke University Press, Durham, NC.

Sugimoto, CR, Thelwall, M, Larivière, V, Tsou A, Mongeon P, et al. 2013, 'Scientists popularizing science: characteristics and impact of TED talk presenters', *PLoS ONE, 8*(4)

Sunderland, J 2004, 'Why these data? Rationales for data selection in doctoral student presentations', *Language and Education*, vol. 18, No. 5, pp. 435-455.

Swales, J 1990, *Genre analysis: English in academic and research settings*, CUP, Cambridge, UK.

Swales, J 2004, *Research genres: exploration and applications*, CUP, Cambridge, UK.

Swales, J & Feak, CB 2012, *Academic writing for graduate students: essential tasks and skills* , 3rd edn. University of Michigan Press, Ann Arbor, MI.

Szenes, E 2017 'The linguistic construction of business reasoning: towards a language-based model of meaning-making in undergraduate business', unpublished doctoral thesis, University of Sydney, Sydney.

Szenes, E & Tilakaratna, N 2021, 'Deconstructing critical reflection in social work and business: negotiating emotions and opinions in reflective writing', *Journal of English for Academic Purposes*, vol. 49, p. 100931–.

Tardy, CM 2004, The role of English in scientific communication: lingua franca or Tyrannosaurus Rex? *Journal of English for Academic Purposes, 3*, 247-269.

Teramoto, H & Mickan, P 2008, 'Writing a critical review: reflections on literacy practices', *Language Awareness*, vol.17 no.1, pp. 44-56.

Thompson, S 1994, 'Frameworks and contexts: a genre-based approach to analysing lecture introductions', *English for Specific Purposes*, 13/2: p. 1.

Thompson, G 1996, 'Voices in the text: discourse perspectives on language reports', *Applied Linguistics*, vol. 17, pp. 501-530.

Thompson, G 2013, *Introducing functional grammar*, Routledge, London.

Thompson, S 2002, "'As the story unfolds": the use of narrative in research presentation', in E Ventola, C Shalom & S Thompson (eds) *The language of conferencing*, Peter Lang, Frankfurt, pp. 147-168.

Tilley, SA '"Challenging" research practices: turning a critical lens on the work of transcription', *Qualitative Inquiry, 9*(5), p. 750.

Titscher, S, Meyer, M, Wodak, R & Vetter, E 2000, *Methods of text and discourse analysis*, Sage, London.

Tognini-Bonelli, E & Camiciotti, GDL (eds), 2005, *Strategies in academic discourse*, John Benjamins Publishing.

Trevelyan, J 2021, 'What we know and mostly don't know about engineering practices' Keynote address, 2021 Research Engineering Education Network, Australasian Association for Engineering Education, Perth, Australia.

Universities Australia, 2020 *Higher education facts and figures report, October 2020* https://www.universitiesaustralia.edu.au/wp-content/uploads/2020/11/200917-HE-Facts-and-Figures-2020.pdf

The University of Queensland 2022 '3MT competitor guide', *Three Minute Thesis* https://threeminutethesis.uq.edu.au/resources/3mt-competitor-guide

Ure, J 1971, 'Lexical density and register differentiation', in GE Parren & J Trim, (eds), *Applications of linguistics: selected papers of the second international congress of applied linguistics*, CUP, Cambridge, pp. 443-452.

van Leeuwen, T 2005, *Introducing social semiotics*, Routledge, London.

van Leeuwen, T 2008, 'New forms of writing, new visual competencies', *Visual Studies* vol. 23, no. 2, pp. 130-135.

Ventola, E, 2002, 'Why and what kind of focus on conference presentations?' in E Ventola, C Shalom & S Thompson (eds), *The language of conferencing*. Peter Lang, Frankfurt am Main, pp. 15-49.

Warner, RN & Picard, MY 2013, 'ALL academics facilitating articulated learning for English as an additional language students', *Issues in Educational Research*, vol. 23, No. 1, pp. 83-96.

Weissberg, B 1993,'The graduate seminar: another research-process genre', *English for Specific Purposes*, vol. 12, no. 1, pp. 23-35.

Weissberg, R & Buker, S 1990, *Writing up research: experimental research report writing for students of English*, Prentice Hall Regents, Englewood Cliffs, NJ.

Wenger, E 1998, *Communities of practice*, Cambridge University Press, Cambridge UK.

White, P., 2004. 'The language of attitude, arguability and interpersonal positioning'. *The Appraisal Website* http://www.grammatics.com/appraisal/index.html

Willison, J & O'Regan, K 2008, 'The researcher skill development framework', University of Adelaide, Adelaide.

Wingate, U 2012, 'Using academic literacies and genre-based models for academic writing instruction: a 'literacy' journey', *Journal of English for Academic Purposes*, vol. 11, no. 1, pp. 26-37.

Wisker, G 2000, 'Cross-cultural research supervision and research at a distance: issues for postgraduate students and supervisors' in *Quality in postgraduate research: making ends meet. Proceedings of the 2000 Quality in Postgraduate Research Conference Adelaide April 13-14* The Advisory Centre for University Education, University of Adelaide, Adelaide, pp. 43-49.

Wisker, G, Robinson G & Shacham M 2007, 'Postgraduate research success: communities of practice involving cohorts, guardian supervisors and online communities', *Innovations in Education and Teaching International*, *44*(3), pp. 301-320.

Wolff, A. Jones, A & Hansen, K 2008, 'Vitamin D and musculoskeletal health', *Nature Reviews Rheumatology*, vol. 4, pp. 580-588.

Young, RF & Nguyen, HT 2002, 'Modes of meaning in high school science', *Applied Linguistics*, vol. 23, no. 3, pp. 348-372.

Yu, S & Lee, I 2012, 'Understanding supervisors' commentary practices in doctoral research proposal writing: a Hong Kong study', *The Asia-Pacific Education Researcher*, vol. 22, no. 4, pp. 473-483.

Zappa-Hollman, S (2007) 'Academic presentations across post-secondary contexts: the discourse socialization of non-native English speakers', *Canadian Modern Language Review*, vol. 63, no. 4, pp. 455-485.

Zappavigna, M, Dwyer, P & Martin, J 2008, 'Syndromes of meaning: exploring patterned coupling in a NSW youth justice conference', in A Mahboob, and N Knight (eds), *Questioning linguistics*. Cambridge Scholars Publishing, Newcastle, pp. 103-17.

Zappavigna, M, Cléirigh, C, Dwyer, P & Martin, J (forthcoming), 'Visualising appraisal prosody', in A Mahboob and N Knight (eds), *Appliable linguistics: texts, contexts and meanings*, Continuum, London.

Zareva, A 2011,'"And so that was it": Linking adverbials in student academic presentations', *RELC Journal*, vol. 42, no. 1, pp. 5-15.

Zareva, A & Zareva A 2020, *Speech accommodation in student presentations*, Springer International Publishing.

Appendices

Appendix 1 Transcription of presentations

Text A: slides, speech, gesture, and staging.

Stage		**Slide Heading & [glossed content]**	**Speech** Includes false starts, discourse markers, mispronunciations Stress is *italicised* Gestural beats underlined  pointing towards screen  strong beat  strong open-handed beat  pinching  specific pointing on slide with laser pointer  one-handed gesticulation  two handed gesticulation

SET-UP		Refractory Chronic Rhinosinusitis: Pathology and Surgical Management [list]	// Well
			// *Thank you* / for allowing me to present today my thesis *topic*
			// which I think will revolve around
			/  refractory chronic rhinosinusitis: pathology and surgical management //
			//  Do I have to point it / or …it just works?

RESEARCH WARRANT	**Descriptive Report**	Chronic Rhinosinusitis (CRS) [photograph]	// Chronic rhinosinusitis is an *important* disease / that affects around 12.5% of the population
			// Patients  usually *complain* of headaches  in the cheek area  or in the head, facial pain, ah, and *rhinorreah*, postnasal drip … *more* than three months
			// An interesting part of the disease is *that* it exerts a *higher* toll on the  *quality* of the life of the patient than do, disease, than  *other* famous diseases like congestive  heart failure, angina, and  back pain in the areas of bodily pain and social *function*

		[smartchart]	
	Challenge	Functional Endoscopic Sinus Surgery [text and photograph]	// The *treatment* of chronic rhinosinusitis is done through medical management / however, a *great* deal *number* of patients pass on to *require* surgical management // and since the *invention* of the endoscope, ah, in the 1980s / ah *functional* endoscopic sinus surgery ah has risen to be the  gold standard / in the surgical management of chronic rhinosinusitis

		Functional Endoscopic Sinus Surgery [diagram, uncited]	**Descriptive Report**
			// The concept of functional surgery is that it *clears* *disease* at the osteomeatal complex
			// And I will show you here
			//  this is a diagram of the sinuses
			//  this is the osteomeatal complex area, / where-,
			// which is the most *important* ah area of *disease*// So the concept or the  *hypothesis* of ah of this *obstructive* theory is *that*
			// an *obstruction* / that occurs in the osteomeatal complex area / leads to  stasis of the secretions from the sinuses / and ah in-, intrasinus infection and  mucosal ah *thickening*
			// And the *concept* of the surgery is *that* / by *relieving* obstruction / disease  can be *cleared* / …from the sinuses

		Functional Endoscopic Sinus Surgery
		[bullets and photograph]
			// And this concept was hugely successful
			// Success rates for functional surgery is about 90% of *primary* cases
			// But it falls to 70% / for patients who are doing it for a  *second* time

		Refractory Chronic Rhinosinusitis	// And there *are* a certain group of patients / who *appear* to be  *resistant* to  *any* type of surgical, ah, management / and *require* multiple and multiple surgeries
			// And these patients / we call them as / suffer from refractive chronic rhinosinusitis
			// That is, *no* matter how number of surgeries they... go through / they  *are* resistant / *and* require further revisions / and persistent symptoms
			// However, functional surgery is *not* the only *option*
			// There has b- / in the literature there has been  *alternative* surgical tr-, -ies
			// that have been *reported* to,  to *give* better outcomes in *this* subset of patients
			// These include  the Caldwell-Luc,  canine fossa trephines,  frontal drillout for the frontal sinus or radical ethmoidectomies, and Denker's nasalisation procedures
			// These procedures do not depend *only* upon *relieving* osteol obstructions / but they *clear* as *much* of the *diseased* tissue in the *sinuses*
			// **c**h-, and  in the extreme cases, like in De- Denker's nasalisation procedure,  *creating* almost like *one* great *cavity* of *all* the... sinus cavities

		Radical Surgery [list]	**Descriptive Report**
			// Here is some data from our department / which… it *still* hasn't been published
			// This is a *survival* analysis of, ah *functional* surgery
			//  again it's ah another group of patients which have undergone *radical* surgery
			// and  in *our* case, this was a *frontal* drillout, / ah *plus* a canine fossa for the maxillary sinus
			// Here,  this ah *survival* curve
			// So…
			//you can see/ as the curve *descends* / this *means* that / once a, a patient has undergone ah a revision surgery / *that* means -

		Radical Surgery [graph, cited]	//  this is the month post-operatively, after surgery / and patients start from *here* / and  *this* is the functional phase
			//  so as a patient *requires* a revision / the curve... goes… a bit down
			//  And we see here / the difference between the, the end of the post-operative need for revisions between this group, the functional group, and radical group
			// and  this difference was *statistically* significant between two groups
			// implying that  *radical* surgery in this group ah offered ah *better* post-operative survival / as in a *lesser* risk of ah revision surgeries.
			// And here comes the *argument*

		Argument [cartoon figures]	// but, if, ah, if we have some patients who get be- who might get *better* outcomes from *radical* surgery / wh- does this *mean* *that* /  we should ah, *do* radical surgery as the *routine* standard in the care of chronic rhinosinusitis patients?
			// And *who* are  these patients which we *can* select / who would *benefit* from *radical* surgery versus the functional?
			// And if  *at all*, ah *radical* surgery wi-, will ah lead to ah an *extra* benefit over functional surgery.
			// So, refractory chronic rhinosinusitis, ah
			// my question *ultimate* will be
			// 'Why do patients fa- /these patients/ fail surgery / and how can we *better* identify them?'

		Refractory Chronic Rhinosinusitis [question mark icon and text]	

	Descriptive report	When FESS fails [list]	// We will investigate *two* hypotheses / ah in *these* patients
			// the first- ah
			//  *these* hypotheses are somewhat …related

		Inflammatory load hypothesis
		[micrograph, bullets]
			// The first hypothesis is the '*inflammatory load'* hypothesis / and the second one is an '*irreversible* disease' hypothesis
			// The inflammatory load hypothesis was *based* on *two* observations
			// number one, that *patients* with *asthma* or *aspirin* intolerance usually have *worse* outcomes / and *higher* needs for revision surgeries / and *persistent* post-operative symptoms
			// number two, patient ah patients who have *higher* markers of eosinophilic infiltration / as in, for example, higher ah *peripheral* eosinophilia / or, for example, ah, higher *tissue* eosinophilia in their sinus mucosa / were reported to have *worse* outcomes than those who *haven't*

		Inflammatory load hypothesis
		[diagram]
			// And since we *know*
			// that patients with asthma or aspirin intolerance *already* have a *higher* ah degree of eosinophilia in, in their mucosa
			// *then,* we can assume
			// that in *some* patients, ah, the *amount* of eosinphilic load in their mucosa reaches a *critical mass* / beyond which *just* opening the sinus ostea ah wouldn't add, ah, wouldn't be of benefit
			// So this is ah this is a figure of a, ah, a *fission* reaction / as in the atomic bomb

		[diagram, uncited]	// This fission reaction to occur / the *initial* mass must reach a *critical* mass / so that the *reaction* continues
			// This can be imagined in the sinuses
			// where we have eosinophilia *reaching* a degree / beyond- beyond which just *opening* the sinus ostea does *not* make any difference for the patients
			// And, and it can thus be explained that *radical* surgery perhaps offers *better* outcomes
			// because it causes a *more* increased removal of all these inflammatory load in the mucosa
			// And all the factors that lead the disease propa-, propagation
			// these include *biofilms*, ah staphylococcus enterotoxins / ah or fungal antigens
			// Or *even* osteitic bone.

		Irreversible Disease Hypothesis	// And the second ah hypothesis we're going to investigate is an *irreversible* disease hypothesis // This was based on research done in asthma

		Irreversible Disease Hypothesis
		[bullet]
			// where this is the *old* definition of asthma / which was thought to be *reversible* disease
			// However, *some* patients were *reported* to have *irreversible* disease
			// as in *irreversible decline* in the respiratory function over time
			// It was found
			// that *this* irreversible loss of function is due to *physical* alterations in the bronchi / which will then cause remodelling
			// and then it *was* suggested
			// that asthma is a *disease* process that *leads* to *remodelling* in the sinuses.

		[micrograph, cited]	// This is a *slide,* histopathology slide / from ah a patient with asthma
			// we can see here the remodelling ah, remodelling ah, the symptoms of remodelling here
			// as in a *thick* subepithelial basement membrane / and *hypertrophy* of the smooth muscles

		[micrograph, cited]	// This is *another* slide also from a bronchus
			// We have here *glandular* hypertrophy, goblet cells, glandular hypertrophy / and, a *thick* subepithelial basement membrane/ and *smooth* muscle hypertrophy
			// And of course… the *eosinophilic* infiltration.

		Irreversible Disease Hypothesis
		[table]
			// And *these* were the asthma treatment *guidelines* / before they *discovered* remodelling
			// however *after* they discovered remodelling
			// and knowing
			// that *some* patients might *ultimately* ah develop *irreversible* disease
			// they *decided*
			// that the *mild* patients were, were not *indicated* for anti-inflammatory medication
			// they decided
			// to *split* that into '*mild* intermittent' and '*mild* persistent'
			// and the *mild* persistent group were *indicated* ah for *daily* steroid anti-inflammatory medication
			// which *was* beginning there *wasn't* such a case
			// So they *added* it / in an attempt to *control* these patients / and perhaps to *delay* the onset of potential irreversible

		[cited micrographs]	//  This is, these are slides from a sinus
			// and we see here
			// the *same* ah features of remodelling occurring in the sinuses
			// it's, it's the same as occurring as
			// is a very *thick* ah subepithelial basement membrane
			// and here some eosinophilic infiltration,
			// we, here, this, we *see* the ah epithelial cell dispersions or *ulcers,* glandular hypertrophy, loss of -
			// here, this is almost no remodelling with the *cilia* intact /
			/ here we have the cilia almost *gone*

		[cited micrographs]	// and this is a *comparative* slide
			// this one is from a, ah, an ah from a *bronchus* in an *asthma* patient
			// and *this* slide is from ah the *sinuses*
			// We-, we see here *how* does-
			// the pathology is *almost* the same
			// exc- exc- except for perhaps the, the, ah *smooth* muscles / which are not present in the sinus
			// but we can see here
			// that the pathology is almost the *same* with the *thick*, ah, thick ah basement membrane / and *loss* of cilia.

	Description	[flowchart]	// So *I*, ah,
			// *we* will going to *study* the *inflammation*
			// especially the *eosinophilic* part / *and* the remodelling
			// *in* an *attempt* to decipher perhaps the role of *these* / in ah *reaching* a *state* of *surgically irreversible*

PROCEDURE		Immunohistochemistry [smartchart]	// So, our methodology will be / *comparing* the ah *patients* who have a *good* prognosis,
			patients with *mild* disease, for- with *patients who* have undergone *multiple* revisions / and did *not* respond to the initial ah therapy
			// And we *might* also compare *over* time, ah patients who have done a *first* surgery versus
			their *mucosae* at a *later*, ah, point in time
			// perhaps we find *difference* in the mucosa
			// as in, *this* is *increased* ah *thickness* in the basement membrane or *increased* inflammation over time

		Immunohistochemistry [smartchart]	//So, in the mucosa we'll be looking at the *morphology*, the *eosinophilic* markers, and the *remodelling* factors

		Immunohistochemistry [micrograph, uncited]	// The morphology these include / as we have seen in the *previous* slide / eosinophils
			// and *trying* to *quantify* that, ah the *epithelial*, the *basement* membrane
			//  which *is* made of *collagen*
			// and perhaps we might use a *special* stain / which is a '*trichrome'* stain/ or a 'picrosirius' stain.

		Immunohistochemistry [list]	// *Then*, using immunohistochemistry / we'll look at ah various *markers* for eosinophilic infiltration
			// these include  the ECPs and MBPs and EDN
			// which have been *correlated* with disease severity before
			// and *more* of these were done in *asthma* research
			// Ah and then at the *end* we will be looking at the remodelling
			// which wil include the basement membrane thickness
			// and / using immunohistochemistry / several ah cytokines / or, ah
			// which were *found* to be very important in ah the process of remodelling

		Investigation [smartchart]	// At the end, ah we will *try* to *correlate* that with the database we have with the *outcome* of the patient // they have a *poor* outcome / or they have ah, a *good* outcome

		[smartchart]	// And at the end introduce the *radical* surgery
			// and how did *radical* surgery help relieve that
			// or *what* is the effect of *different* types of surgery on the muscosa.

TERMINATE		Acknowledgements [list]	// So I'd like to *thank* all these ah University of [redacted]  and supervisor and colleagues and [redacted] and Dr [redacted] and all of the [redacted] staff...
		Anybody awake? [photograph]	// so ah....

Stage		Slide Heading & [glossed content]	**Speech** Includes false starts, discourse markers, mispronunciations Stress is *italicised* Gestural beats underlined  wiggling cursor on screen  pointing towards screen  one-handed gesticulation  pinching  two handed gesticulation  strong beat or oscillation

SET-UP		The role of dietary calcium on Vitamin D receptor mediated bone cell activities to enhance bone structure [names]	// Um
			// Good morning ladies and gentlemen / and thankyou for coming
			// Um / I'm going to present my research proposals / with the title of 'The role of dietary calcium on Vitamin D receptor mediated bone cells activities to enhance bone structure'
			// This project is *supervised* by Professor [redacted] / and co supervised by [redacted]
			// …Forgot the.. pointer.

RESEARCH WARRANT	**Descriptive Report**	Introductory Background [bullets, cited]	// Anyway / This *project*, was first built, to fight the osteoporosis demon.
			// Osteoporosis is age-related bone brittling with normal mineralisation proces
			// Age-related meanings that this *process* occurs as the person age 
			// once they reach the peak bone mass volume the bone mass will  *decrease* slightly with the normal mineralisation pro-process
			// This process is, this, this is is a *major* health problems
			// because it's *affecting* not only in *developed* country / but also in developing country such as mine
			// There are *one* in two female and one in four male Australian are *affected* by this disease 
			// and about 32% of *male* and about 30, about 22% of *female*, are affected by osetoperosis in *my* country
			// therefore it's really *important* to *fight* this osteoperosis
			// The most common and widely used preventio-
			// ah, the most common and widely used methods to fight it is a prevention
			// because if we *treat* it is very *costly* / because osteoperosis causes ah fracture and disability throughout life
			// The *most* common use of *prevention* is vitamin D supplementation.
			// Vitamin D is known as a bone vitamin /  *because* it has related to do with the *rickets* disease  like in about 1600 or 1700 / and after that in about  1950s or 1970s  we *found* that vitamin D is *not* just a vitamin, it's a *hormone*
			// which *acts on* various *cells* / therefore it *has* various ah health effects.

		The Vitamin D Metabolic Pathway [diagram, cited]	**Sequential Explanation**
			// The vitamin D has a metabolic pathway… as follows.
			[Coughs]
			// From the *skin*, with the exposure of *sun* or UVB, the provitamin B vitamin D will be changed in to previtamin D / and having an isomerisation will change them into D3
			// The D3 will enter the circulation
			// but not only from the , you can *also* get it from the *dietary* / you can get it from *milk*, *fish* or even from the supplement
			// The circulatory D3 will underwent -uh, hydroxylation by the *25 hydroxylates* or normally CYP27-uh or CYP 2r1 / and change into *25 hydroxy* vitamin D,
			// it's a storage form.
			// The 25 hydroxy vitamin D is also a *nutritional status* of vitamin D
			// It's commonly used to *know* whether they we have a *deficiency* or *sufficiency* of vitamin D / by the measuring of the 25 D hydroxy… vitamin D
			[clears throat]
			// The 25 hydroxy vitamin D and then *change* in to *125* hydroxy vitamin D
			// which is an *active* form of vitamin D
			// The active form vitamin D was changed by 1 alpha hydroxylate or CYP 27 B1.
			// The *CYP27B1* is activated by parathyroid hormones, or PTH / and and the the *active* have a *feedback* in the enzyme / therefore its can stops the the CYP27b1 activity
			// The *active* form of vitamin D in the *serum* was carried by DBP / uh vitamin D binding protein
			// The vitamin D binding proteins and then *transfer* the vitamin D to various cells, // and the most *common* and *widely known effect* of vitamin D is in intestine
			// In the *intestine*, the vitamin D will *enhance* calcium absorption
			// and also goes to the *bone* / where it where it *binds* with the *osetoclast* uh sorry osteo*blast* / and increase the osteoclast function
			// This is the *most* commonly *known* of the *effects* of vitamin D
			// it *increase* osteoclast function

		The Vitamin D Metabolic Pathway [diagram, cited] [highlighting]	// osteo*clast* is a *bone cell* that that *important* for the bone resorption *process*.
			// But *osteoblast*, *here*, is ah cells that *affecting* bone *formation*
			// Therefore, there is a *question* whether vitamin D have *effects* on bone, bone formation *through* the activity of osteoblasts and osteocytes.
			// But,  *what* is bone resorption and bone formation?

Descriptive Report

Bone Cells and Bone Remodelling [diagram, cited]

Sequential Explanation

[clears throat]
// *This* is bone resorption and bone formation models currently known.
// The hematopoietic stem cell will differentiate into *osteoclast*
// osteoclast is the one that *activate* to resorb the bone
// Resorb mean that the *thick* bone mass will be *chewed* and make a smaller part / and the *calcium* from the bone will be released to the blood
// *This* process is activated by the lining cells and the osteoblastic stomal cells
// but the *mechanism* we still not know [clears throat]
// *After* this resorption process, uh
// the resorption process also by osteoblastic stomal cells
// and also from the ost, mesenchymal stem cell
// The *mesenchymal stem cell* is …the *precursor* or the ah, the *precursor* of the osteoblast.
// The osteoblast,
// this is the cells
// oh sorry, ah, ok
// the mesenchymal *stem* cell [cough] will then differentiate into osteoblast
// Osteoblasts *signal* the osteoclast to begin the resorption process,
// and after the resorption there's a formation process
// which ..are controlled by the osteoblast
// Mesenchymal stem cell ah *change* into *immature pro-osteogenic*-uh-pro-*osteogenical cells* / and change in er proliferate and differentiate in to immature osteo*blasts* / and then become osteo-, mature osteoblast
// which *lay* down minerals
// and after laying down minerals / they become *entrapped* in the minerals they have built / and become *osteocytes*.

// These process controlling *every* and *each* of these particle is *still very much* in question
// *Therefore*, we are trying to find [cough] how the vitamin D can *affect* these this process.

Mechanism of Action [bullets]

Rapid Responses [diagram]

Classifying Report

// The process can happen through *two* mechanism
// The first one is the *genomic* action / and the second one is *non genomic* action.
// The genomic action requires the *binding* of the vitamin D to the vitamin D *receptor* // which *then* act as ligand-activated transcription factor to the vitamin D response element in vitamin d responsive gene promoter
// The *promoter* will *control* the *genes* *downstream* of the promoter
// and it will *enhance* or even *suppress* the gene expression
// and therefore, *increase* or *decrease* the protein production
// and *then* change the cellular function / or maybe the system function
// It's said that the vitamin D control at least about *three* percents of total human *and* mouse genome
// That's why it's very widely, commonly *exists* in various cells
// it's *very* important for the cell differentiation *and* maturation
// This is why vitamin D is a *candidate* to find out the process we, I have, shown you before.
// The rapid nongenomic action [coughs] involve the action of vitamin D *through* the intercellular uh induction ah, *trans*duction process / *or* the intercellular cell uh intercellular process
// This is the *process* which *occurs* in the cells
// The vitamin D *active* will enter the cells / and bind to the genomic *action*
// this is the one that I already mentioned before
// and it alter the gene expression
// and one of them is *osteo calcium promoter*
// I stress on osteocalcium *promoter* / because this is the *gene* that *control* the *VDR activities* uh sorry VDR *activity* / and erm *transcription* in *mature* osteoblast

Introductory Background cont. [table]

// And *this* has a cross talk between the *genomic* action and the *nongenomic* action.
// *This* is the nongenomic action I mentioned before

		Introductory Background cont. [highlighting]	// that *entry* of the vitamin D will *activate* the *signal* *transduction* intracellular / and change the calcium *level* / and activate various second messengers / and *various* uh intracellular cells uh intracellular signalling
			// *This* not only *happen* in monocyte and, monocyte and osteoblasts
			// monocyte is the precursor of osteoclasts
			// It also happen in intestine, vascular, adipose sites, and pancreas b cells
			// Therefore it is *widely* happen or occur in in the cells.
			// The [cough] the *activities* of bone cells are present by their CYP27 activities / and by the VDR
			// It means that
			// this is the *ligands*
			// if CYP if CYP 27 is *active*
			// that means that we have *many* of potent vitamin D active in the blood / but if –
			Taxonomic Report
			// this is the receptor / that will *catch* the ligands
			// and *this* is the cells
			// this is *the* differentiation *process* / occurring bone resorption cell
			// this is the one I previously mention
			// the hymoatipoetic stem cell
			// it will then change into granulocyte monocyte colony stimulating *factor*
			// Ah monoblasts pro-monocytes monocytes
			// and then become *osteoclasts* in the *in the bone cells*
			// The mesenchymal stem cell will change into immature pro-osteogenical / matu-mature osteo pro-osteogenical, / or immature pre osteoblast, mature osteoblast / and then osteocytes
			// We can see
			// that *both* cells monocyte and osteoclast / and also *mature* osteoblast and *osteocytes* / *both* have the expression of CYP27b1 and *VDR*
			// Therefore, vitamin D cannot only *just* *act* on bone *resorption*
			// they also have *some effect* in *bone formations*.

	Descriptive Report	Knockout Models
		
		[bullets]
			// [Cough] To *study* this / we tried to make a models / a models that tried to uh *explain* the process
			// This is the easiliy-uh the easy model
			// If we have the *ligand* / the ligand will bi- bind with the *receptor* / and we can get *effects*
			// *If* we delete the ligands / er sorry if we delete the *VDR* / we delete the *receptor* / we only got the *ligand*
			// This study was first conducted by Lee in *1998* and Amling in *1999*
			// It says
			// that *without* the VDR genes, the bone mineralisation process *is* decreasing / *but*, if the sup- supplement them with *calcium* / the bone mineralisation is *normalised* / so it has almost normal *phenotypes*
			// *However* …research by Panda in *2004* / when *he* compare- when he *compared* three mouse models
			// the one with *VDR knockout*, this one, and the CYP27b1 *knockout* and both elimination
			// *this* is what *happen*.
			// When we delete the vitamin D *receptor* / er sorry the vitamin D *ligands* / by deleting the CYP27b1 / the *action* of calcium is not really *good* compared to *those* who does *not* / who does not, doesn't have a deletion in these
			// oh sorry
			// Ah/ when we *delete* the *ligands* / the effect of *bone phenotype* is *less better* than those who are deleted in *just* the VDR
			// *because* throughout the process the skeletal and chondrocyte growth is *defective*
			// so from the early on until the dev-develop become *old* / this process is *defective*
			// and, *without* the vitamin D ligand, the process / e-even if we provide just the calcium/ it *still* defects.
			// *Therefore* the skeletal and chondrocyte defect / er chondrocyte growth is *required* both calcium and vitamin D action / to *maintain* in a good in a good condition
			// *But of course* if we delete *both* even if we supplement them with calcium / it *doesn't* have an effect

		Overexpressed VDR Models
		
		[bullets]
			// Anyway [cough] this *process* is trying to be uhm more emphasised by Gard- uh by the model the model that we tried to *over*express the genes.
			// so we *tried* to *put* er *VDR* genes in osteo calcium promoter
			// that why we call it *overexpress* VDR
			// we in-increase the number of protein / the number of VDR that exist in the cells.
			// These studies were first conducted by Gardiner in 2000
			// and he-sh / and she shows
			// the *net* consequences of VDR elevation in *mature* osteoblasts is anabolic, site specific
			// it means that uh there are *difference* between *cortical* bones and *trabecular* bones

		Suppressed VDR Models
		
		[bullets]
			// and it shows
			// that there is a possible *local* control of bone production.
			// The study was *also* supported by Baldock, in *2006*
			// saying
			// that the mature osteoblasts *reduced* bone resorption in low calcium diet / by the *increase*/ or the *changes* in opg *osteoprotegerin*
			// oh sorry yah oh sh- osteo-OPG
			// sorry I forgot [laughs]
			// and [laugh] actual OPG and the RANK-ligand -L pathway.
			// This shows that might be there is a *difference* between immature and mature osteoblastic lineage / to uhh to *make* a *formations* / or to *build* in the process of bone remodelling.
			// [coughs].

		Introductory Background cont.	// All these raise to the question / whether the VDR mediated activities in the bone-forming cell really *do* exist
			// if it *really* do exist
			// does really VD vitamin D is *required* / if we have an adequate calc- adequate calcium level.
			// because *this* has also produced another another er controversy
			// because there is also a a *theorem* called *calcium paradox*.
			// calcium paradox is *increase* of hip hip fracture in develop *country* such as Australia
			// or *higher* hip con er hip fracture than in *those* in developing *country* / who knows to have a *low* calcium intake
			// so high calcium intake and low calcium intake doesn't *guarantee* that a person will *not* have a fracture.

	Description		// So. An adequate calcium level is not is *not just* the main *idea* of the whole bone remodelling process.
			// if so / *how* the calcium vitamin D and vitamin D receptor interacts in bone remodelling
			// and *what* is the mechanism.
			// This is the one that we are trying to identify
			// by analysing by *analysis* of by means of mouse models
			// that needed uh
			// that will un-eh *elucidate* the mechanism underlying bone make- bone remodelling process.

PROCEDURE		Research Question
		
		[bullets]
			// In order to investigate the role of the dietary calcium in vitamin D receptor in vitamin D receptor mediated activities in bone formation cells
			//this research is are aim to answer *these* following questions
			// the one is the first one is uh vitamin D receptor or *VDR* activities in the bone cell *dependant* on calcium *and* *or* its *ligand*
			// which is vitamin D

		Aims [bullets]	// and if so what is roles of dietary calciums in vitamin D receptor mediated bone-forming cells activities in the bone structure // In order to answer the questions / *this* study has the following specific aims

		[flowchart]	// The *first* one is to characterise mouse models that are able to explain the role of vitamin vitamin D receptor gene in bone-forming cells activities in to enhance bone structure
			// What's the model?
			// the model are *three*
			// there are *three* models
			// *three* mouse models that will I will be working on
			// we will be working on the OSVDR
			// the one that have increase VDR activities in mature osteoblasts.
			// *Mature* osteoblast is the cells that that are *responsible* for mineralising bone.

		Aims
		[bullets]
			// The VDR knockout means / that we delete all the VDR in the bo- in the mice
			// and the *wildtype* as a control.
			// And [cough] to describe vitamin D receptor action in bone -forming cells / and form bo bone-forming cell activities / to enhance bone *strength*,
			// we try to *identify* age-related vita vitamin D receptor action on bone-forming cells activities which affect bone *strength*/
			// and to *explore* whether vitamin D and or calcium is essential in vitamin D receptor mediated bone-forming cell activities affecting bone strength.

		Hypotheses
		[sentences]
			// It is *hypothesised* that, the dietary calcium will *modify* wildtype OS-VDR / and VDR-knockout mouse models, bone phenotypes
			// observed by direct or indirect activities of vitamin D receptors that alters gene expression and protein production, in bone-forming cells / to *enhance* bone strength.
			// These effects are *age-dependent*
			// and require *both* vitamin D and calcium as a regulator
			// The research will be conducted on the following steps

	Steps
	
	[flowchart]
		// The first, we will *identify* the OSVDR
		// the one we have has a CYP27
		// have… has a genetic background of C57Black6
		
		// The *previous* study by Baldock, by Baldock and, by Baldock and Gardiner in 2000 are using FVB/N mice
		
		/ that's *white* mice / and what we have is a *black* mice
		// that's why we try to characterise it first
		// and then supplement them with dietary calcium, in a *low* and a *high* level
		
		// and, in the seven weeks old, we killed
		// and in 20 weeks old we killed
		
		// and then *compare* between the two age / to see the age-dependent relationship between the age, the *young age* and the *old age*
		// and we examine the bone, the *bone* effects analysis by micro-CT / to see the bone structure and architecture
		// and we also study the bone histology / to see the *cell* numbers and activity
		// by means of histology, staining, immuno-histochemistry / and gene analysis by qRTPCR
		// The *systemic effect* of bone ah of calcium diet will be *assessed* through blood samples analysis.
		
		// This is *how* I will conduct it in a three years time / I hope

TERMINATE	Acknowledgements [sentence]	/// and,…I would like to *thank* my principle supervisor, ah Professor [redacted], and co-supervisor Dr [redacted] for the expert assistance and discussion / Therefore I will end my session for boring and wracking, nerve-wracking with / *any questions*? // Please don't ask. [laughs]
	THANKYOU	

Text B2 Staging – Introduction only

Staging (caps)		Text
RESEARCH WARRANT	Descriptive Report	Osteoporosis, a major health problem, is a bone condition characterised by age-related bone loss, decreased bone mass, enhanced bone fragility, and increased susceptibility to fractures (Ref). In Indonesia, some 22.3% men & 32% women were reported to have osteoporosis in 2006 {Sennang, 2006} while in Australia 1 in 2 women and 1 in 4 men age over 60 years old have been diagnosed with osteoporosis {AIHW, 2008}. Bone loss in osteoporosis is undetected until fracture occurred (ref). Wrist, spine, and hip are the most common region of osteoporotic fracture which leads disability, increased dependency and financial burden {WHO Scientific Group, 2007}. Therefore, osteoporosis preventions become imperative paraphernalia to reduce health burden of osteoporosis. Dietary intervention is the most common osteoporosis prevention (ref, ref, ref) **Descriptive Report** Vitamin D (VD) is known as "bone vitamin" since beginning of the 20th century and play a role in Rickets which begin to remerge in this 21st century (ref)}. VD supplementation in animal {Iwamoto, 2004} or human {Dawson-Hughes, 1991;Kyriakidou-Himonas, 1999;Bischoff-Ferrari, 2005;Viljakainen, 2006;Viljakainen, 2009} studies had shown its benefits in osteoporosis and total mortality {Autier, 2007 }. However, recent investigations showed that VD supplementation were unrelated to bone mineral density {Rabenda, 2011;Cooper, 2003}, had minor effect on bone turnover markers {Bjorkman, 2008;Duplessis, 2005} and did not decrease the risk of osteoporotic fractures (ref, ref, ref, ref, ref). Some studies also suggest that VD is ineffective in children and adolescents (ref, ref) or women under the age of 70 {Hunter, 2000}, and have time efficacy on oral dosage {Chel, 2008;Leidig-Bruckner, 2011}. Further understanding of VD action in relation to bone strength physiological properties are needed to unravel the mystery of osteoporosis. VD act through vitamin D receptor (VDR) {Jones, 1998} which served as ligand-activated transcription factor after heterodimerisation with retinoid X receptor (RXR) {Brown, 1999}. This complex will bind to vitamin D response elements (VDREs) in VD-responsive genes promoter to enhance or suppress gene transcription {Dusso, 2005}. VDR exists in almost all cells and control a large number of genes (approximately 3% of mouse and human genome) {Bouillon, 2008} and revealed VD activities in proliferation and differentiation {Samuel, 2008}, and regulator of musculoskeletal {Wolff, 2008}, immune {Cantorna, 2004;Baeke, 2007}, endocrine and metabolism {Holick, 2005;Alvarez, 2010}, cardiovascular system {Bassuk, 2009;Artaza, 2009} and central nervous system {Holmoy, 2010}.
	Descriptive Report]	Increased evidence of VD deficiency and or insufficiency in recent years has taken VD and VDR to a new perspective {Dijkstra, 2007;Bodnar, 2007;van der Mei, 2007;Nakamura, 2006;Huotari, 2008} because it were linked to health diseases {Janssens, 2011;de Borst, 2011;Judd, 2009}. Therefore, update on VD requirement level is needed to determine minimum VD level to maintain an optimal health function especially in bone {Morris, 2005}. It has been established that a greater bone formation than bone resorption process is required to create a strong bone. Osteoblasts {Marie, 2011} and osteocytes regulate bone formation {Bonewald, 2010} and calcium is used as bone building block. Hence, optimum calcium level is essential for bone strength. Calcium supplementation has shown its advantage in osteoporotic patients {Lee, 1981;Dawson-Hughes, 1991;Fardellone, 1998;Shea, 2004}. Calcium acts as cell function regulator through its intracellular cell signalling ability {Nishizuka, 1992}. Skin and kidney through VD formation {Anderson, 2003} and parathyroid gland though PTH production maintain blood calcium level by means of bone remodelling regulation {Akerstrom, 2005}. Combination of calcium and VD supplementation in osteoporosis and bone metabolism studies has shown conflicting evidences. It was beneficial {Larsen, 2004;Dawson-Hughes, 1997;Baeksgaard, 1998;Harwood, 2004} but requires higher dose of vitamin D to prevent fracture {Bischoff-Ferrari, 2005;Boonen, 2007}. Nevertheless, some studies showed that the combination is useless {Serhan, 2005;Schleithoff, 2008} and increased risk of cardiovascular events {Bolland, 20134;Gielen, 2011;Fenton, 2011} and implied that the combination was excessive. This notion was supported by studies in VDR knock out mice. Li et.al 1998 {Li, 1998} and Amling et.al 1999 {Amling, 1999} showed that bone mineralisation and skeletal phenotype in VDR ablated mice were normalised with dietary regimen that maintained normal ion calcium homeostasis. Thus, VD is dispensable in bone mineralisation and strength. The discovery of bone cell producing VD to elicit autocrine and paracrine actions on their surrounding areas {Morris, 2010;Atkins, 2007} has brought a new perspective on VD metabolism and VDR activities in bone cell. Bone cell express 25-(OH)D-1α-hydroxylase (CYP27B1) which metabolise less active 25(OH)D3 to biologically active 1,25(OH)2D3 {Anderson, 2010;Turner, 2009 } and may exert tissue-specific control on bone remodelling. Panda et al. 2004 {Panda, 2004} supported the notion using 3 mouse models (VDR-ko-mice, CYP27B1-ko-mice and VDR and CYP27B1-ko-mice). The study demonstrated that normalisation of blood calcium level can normalise cartilage and skeletal mineralisation but cannot substitute the defective VD-VDR in skeletal homeostasis and chondrocyte growth. Hence, growth plate development requires coordinated calcium and VD actions while optimal osteoblastic bone formation and osteoclastic bone resorption requires both VD and VDR for normal bone remodelling coupling. However, the mechanism by which calcium, VD and VDR interacts in bone remodelling coupling has not been fully understood. The use of genetically modified mice in endocrine research had been reviewed by Davey at al. 2006 {Davey, 2006}. A global VDR knock out mice may have revealed VDR activities on bone metabolism in relation to blood calcium level {Bouillon, 2008} although it is difficult to ascertain whether the phenotypes observed is due to *vdr*-gene-products in bone cells or from other indirect actions of parathyroid gland or kidney. Therefore, conclusions drawn from knock out mice models need to be carefully evaluated. Overexpress mouse models produce nonphysiological level of gene and protein expression, therefore, they provide valuable insights into normal gene function in vivo {Davey, 2006}. Study in overexpress VDR (OSVDR) mice model has suggested an existence of distinct and diverse vitamin D regulatory pathways in immature and mature cell of the osteoblastic lineage {Baldock, 2006}. This mouse model has a full-length coding sequence (cDNA) cloned downstream of osteocalcin promoter which highly expressed in mature osteoblasts {Gardiner, 2000} and useful to demonstrate obvious bone process. However, this mouse model have disadvantage in tissue specificity and levels of transgene expression which requires characterisation in its non-target tissues {Davey, 2006}.
	Descript	A comprehensive study to determine calcium role in VDR activities on bone cell will provide further insight on bone physiology and remodelling. Thus, this study aimed to determine and compare the VDR activities in VDR *null* & VDR Over-express models with and without dietary calcium in time dependent physiological manner and study the indirect or compensation pathway that contributed to VDR activities in bone metabolism and physiology.

Stage		Slide Heading & [glossed content]	**Speech** Includes false starts, discourse markers, mispronunciations Stress is *italicised* Gestural beats underlined  pointing towards screen  strong beat  strong open-handed beat  pinching  specific pointing on slide with laser pointer)  one-handed gesticulation  two handed gesticulation

SET-UP		Staphylococcus aureus: stress response and its role in pathogenesis [names]	// Good morning everybody
			// Thank you for coming here today
			// I am [redacted]
			// I come from microbiology
			// Today I would like to *present* my research proposal
			// The topic is 'Staphylococcus aureus: stress response and its role in pathogenesis'
			// My supervisor is Doctor [redacted] / and co-supervisor is Associate Professor [redacted].

RESEARCH WARRANT	Descriptive Report	Introduction S.AUREUS BACKGROUND
		[writing and images]
			// First, I would like to present the ***background*** of this bacterium.
			// Staphylococcus aureus is ah ***one*** facultative anaerobic gram positive coccal bacterium 
			// and it's uh colonised o- in the skin / and the nasal cavity.
			// Approximately 20% of human population are ***long***-term carriers / and 60% are intermittent carriers
			// This ***also*** known as an 'opportunistic pathogen'
			// and leading a ***full*** spectrum of infection
			// As you can s- see here
			// that is some tissue *infection*, like impetigo, boils, wound infections / or *more* serious diseases such as meningitis, endocarditis, ah osteomylitis, pneumonia and ah toxic shock syndrome
			// In recent year, is also known as a '*superbug'*
			// A superbug, because it can develop to multi-antibiotic-resistant strains
			// that is hospital-acquired methicillin-resistant Staphyloccocus aureus, or HA-MRSA, or community-acquired MRSA, / and  *even* vancomycins-intermediate and vancomycin resistant strains
			// This becomes a worldwide *problem*
			// not only in developed countries,  like US
			// each year about 20,000 ***deaths*** due to MRSA infections
			// ***now*** it also has become a ***issue*** in developing countries / because of the  ***overuse*** or ***wrong use*** of antibiotics.
			// *Importantly*,  now, it can switch to special lifestyles, such as  ***biofilms*** and *small colony variants*
			// they are the important cause of the ***relapse*** and *recurrant* infections.

		S. AUREUS SMALL COLONY VARIANTS & BIOFILMS [bullets, micrographs and photograph]	**Classifying Report**
			// What is small colony variants and biofilms?
			// As you can see here,  there's a differences between the ***normal***  types and  biofilms / and between the normal types and small colony variants
			// In the biofilms / biofilms is known for a long time / and it is characterised by the multilayers of single cells or micro-colony encased in a matrix
			// which is formed by extracellular polysaccharide matrix
			// This matrix is *very rigid*
			// and protects the cells from the ***destructive factors*** such as nutrient starvation, pH or osmotic changes, or oxygen level
			// Um / the, another kind of evolutions in metabolic pathway that is small colony variants
			// Small colony variants are characterised as a *very very* small size colony, like pingpong,
			// and they are colourless and non-haemolytic.
			// And both of these forms are very *challenging* for diagnosis / because of ***this special*** characteristic
			// and challenging for treatment / because of this is difficult to totally removed
			// Therefore it can be found in chronic and prosthetic device infections, such as cystic fibrosis, osteomyelitis, and intercostalitis, or sinusitis
			// Um they are ah very slowly in growth / but still *virulent*
			// And, in recent years they are demonstrated as having higher persistence and higher antibiotic resistance,
			// and ***because*** of ***this*** characteristic, very ***special***
			// and so this requires *new* therapies.

	Descriptive Report	Introduction STRESS RESPONSE OF S.AUREUS [diagram]	// The overarching principal that helps *staphylococcus aureus* in *overcoming* the innate immune system / and colonise, to colonise, to *invade* and to *survive* in the host tissue / that is the capacities of overcoming stress; the capacity of stress response
			// The innate immune system will *produce* the Reactive Oxygen *Species* and Reactive Nitrogen *Species*
			// And uh Reactive Oxygen Species *includes* the *many* uh *agents*, like hyper, hyper, superoxide, hydrogen peroxide, or NQ-hydrogen peroxide
			// and nitrosative *stress* include nitric oxide
			// these are very toxic
			// and kill the bacteria
			// And re-, the species will react *together* / and react with *another* biomolecule such as lipid containing *structure* like cell membrane / and initiate lipid peroxidation
			// The *products* of lipid peroxidation are reactive aldehydes
			// They are also known as a destructive agent to bacteria.

	Descriptive Report	Introduction STRESS RESPONSE OF S.AUREUS [diagram plus highlighting]	// And… in… in recent year, there is a *many* understanding / about *how* staphylococcus aureus can overcome the *oxidative* stress and *nitrosative* stress
			// For example, staphyloxanthin
			// that is the *pigment* that *neutralise* the superoxide
			// and superoxide dis- dismutase
			// they are the enzymes to *scavenge* the uh radicals
			// um and *several* oxidative stress resistant proteins, created, like KatA catalyse, thiol peroxidase, alkyl hydroperoxidase, or thioredoxin reductase
			// uh n- like uh the *neutralisations* of these radicals
			// For the *nitrosative stress*, there's a protein
			// that's *Hmp*
			// ah this is ah *responsible* for the ah *defence* against the nitric oxide.
			// So / How about the *lipid*
			// uh how about the *impact* of *oxidative* stress and *nitrosative* stress on the *biofilm* and SCV *formation*?
			// Until *now* there's just *one study* involved in the *impact* of oxidative and nitrosative stress on biofilm formation
			// and this is uh *result* in the nitric oxide *inhibit* the biofilm formation
			// Therefore, *little* is known *about* biofilm SCV, *especially* clinical isolates
			// because in *that* study, they just uh study on *one* strain
			// And how about the reactive aldehydes?
			// There's *no* understanding *about* *how* Staphylococcus aureas overcome this reactive aldehyde
			// In *other bacteria*, we found that *one* class of enzyme that can remove the aldehyde
			// That is aldo-keto-reductase superfamily
			// AKR superfamily
			// so that is *one part* of my project
			// And *what* is AKR superfamily?
			// AKR superfamily can be *found* in eukaryotes and prokaryotes
			// until now there are *15* families with more than 140 members
			// *several* mammalian AKR *are* characterised
			// and known about the functions
			// however *in bacteria* there's um, *little* is *known* about the *role* of AKR
			// In the um mammalian cells, they are known
			// they um *remove* damaging compounds, toxins
			// and respond to oxidative stress
			// There are *two* pathogenies
			// that is *E.coli* and H.pylori

			// whose AKR *are* characterised
			// and uh known about the function
			//
			// They are responsible to *reduce* several aldehydes
			// and *diketone* substrate being equalised
			// and reduce aromatic aldehydes in H. pylori
			// As I *mentioned* that the AKR *expressions* in Staphylococcus aureus is *unknown*
			// and from a clinical *analysis*, we found
			// that the gene AKR is *present* in the *staphylococcus* aureus
			// and, we *propose*
			
			// that *this* gene be, will be regulated by one *special regulator* / belonging to the *MERR* family.

		Introduction
		THE AKR SUPERFAMILY
		[bullets and diagram]
			Descriptive Report
			// So, the *MERR* family, that is the transcriptional actors
			// which is *known* response to the *stress*
			// There are *several* members of this family
			// *originally*, this is known to defence against the metal stimuli of the environment
			// Uh the mem- the *members* of this family are based on AR group on
			// um based in the homologous N-terminal helix-turn-helix DNA binding domains
			// but *dissimilar* C-terminal sensing domain.
			// About a mode of actions
			/ so it acts as a weak *repressor* in the c- in absence of cognate stress
			// and a *activator* in present of cognate stress
			// and it regulates its own synthesis
			// And you can see here
			// when MerR-
			// this is the archetypal member of this family
			// and this is the mercuric ion-sensing regulator
			// so when MerR *bind* to the diassymetric between the promoter elements
			/ they will *bend* the DNA

		Introduction
		THE MERR FAMILY
		[bullets, diagram]
			// because the *typical* spacers between the *elements* is ah *17*
			// but in *this* case, they have the *spacer*, a *larger* spacer, 19 space there
			// therefore they will *bend* the DNA
			// So *that* the RNA-p
			/ that is, the RNA polymerase
			// cannot *contact* with the minus element
			// so the *transcriptions* of the structural genes will be *blocked*
			// When there is the *presence* of the cognate stress, such as mercury, with –
			// this is the *mercury*
			// - so, the MerR will com- create a *complex* with the *mercury*
			// and- leading to the conformational change in *protein*
			// and so that the RNA-p can contact with the promotor
			/ and *activate* the transcription.

	Description	Introduction NmlR Novel MERR-like regulator [bullets and diagram]	// NmlR is belong to the *MERR* family
			// and ah involved in the genes defence oxidative and nitrosative stress
			// And it has a helix-turn-helix motif characteristic,
			// but different in *conserved* cysteine residues
			// It can be found in a *range* of bacteria genomes, such as the Neisseria meningitidis, Neisseria ah gonorrhoeae, Haemophilus influenzae and streptococcus pneumoniae.
			// Ah *some* genes is regulated-
			// some genes *are* regulated by NmlR, like adhC, estD, or copA
			// are related to the defence *against* oxidative and nitrosative stress.

	Description	Hypotheses NLMR plays a role in aldehydic base stress	// So, from the background, AKR and NmlR, we have ah *two hypotheses*
			// The first is that NmlR in Staphyloccoccus Aureus plays a role in the *defence* against aldehydic base stress.
			// And ah it has a *new* arrangement
			//and is ah two target
			// that is AKR and HysA
			// So, HysA is one of the ah s- one of the ah *spreading* factor,
			// help Staphylococcus Aureus in *invade* host by *degrading* the connective tissue
			//And the MERR-like operator promoter is *upstream* of this MRSA
			// And the second hypothesis here that's related to the *biofilm* and SCV formation
			// that is, clinical isolates may *possess* specialist pathways for stress response
			// and this will *determine* their lifestyles.

PROCEDURE		Aims [bullets]	//So, we have *three* aim heres
			// *First*, we will *characterise* the AKR, NMRA and HysA system
			//After that we will *determine* the impact of *stressors* on the *biofilm* and SCV *formation*
			// and we will *verify* the molecular basis of the, *pathway*

		Objectives [flowchart]	// For the aim 1, we have ah some *objective*
			// First we will *construct* the *AKR* *NMRA* and *HysA mutants*
			/ by usings double cross-over
			// and *examine* the *physiology* of the *mutants*
			// and ah *examines* the regulator-promotor interactions by using beta-galactosidase report system
			// and examine expressions of AKR and HysA
			// to *compare* the *mutants* between the mutants and the *wild type*

		Objectives [flowchart]	/ by using enzyme assay.
			// For the aim 2 and aim 3
			// so we will *examine biofilm* and ah SCV formation
			// ah and ah *co-culturing* to examine the physiology of the mutant,
			// and *construct* the *random* mutants by using transposons mutagenetic,
			// and determine the *genes* relevant to biofilm and SCV um formation under stressor
			// by usings *micro*array DNA.
			// So, the strain we *will use* include 8 genome sequenced of Staphylococcus Aureus,
			// um and s- especially 63 clinical isolates collected from the [redacted] Hospital,
			/ will be *used* for the biofilm and SCV formation part. [cough].

		Materials STRESSORS [list]	// For stressors, ah we use the representative agent for *aldehyde* // and for *nitrosative* stress / and *oxidative* stress / as I've described here.

	Methods DOUBLE CROSS-OVER AND PHYSIOLOGY OF MUTANTS [bullets and diagram]	As well, physical condition like *pH*, temperature and oxygens level
		// Ah this *methods*,
		// there is the, this methods
		// we just *recommend* here,
		// and, this required ah *modification* or *changes* when the project is in progress

	Methods B-GALACTOSDASE REPORT SYSTEM [diagram and bullets]	// So we use the double cross-over to knock out the *genes*
		// and construct the *mutants*
		// and use these mutants for physio- physiology
		// Beta-galactosidase report system, ah that is,
		// I *use* the, a, *vector*
		// and after that *cloning*
		/ and *co-transformations* in the E.Coli,
		// and after that *use* the LacZ
		// to examine the regulator-promotor interaction.
		// This *depends* on the LacZ activity,
		// to, it will, this will *conclude*, that a NMRA will be a *refresher*, or an activator

	Methods TRANSPOSON MUTAGENESIS [bullets and diagram]	// The transposons mutagenesis is just used for *construct* uh uh *random* mutants
	Methods MICROARRAYS [bullets and diagram]	// and to *verify* the molecular basis of biofilm and SCV formation / we use a *microarray* DNA / to determine *that what* the genes *what* genes is important for *biofilm* and SCV *formation* under stressors.

CONCLUSION	Significance [[bullets]	//Ah, in summary
		// so I just want to ah *pick* some point some important point here
		// That first, *staphylococcus* aureus *nowdays* very important pathogen for humans
		// because it develop to *aquired* multi-antibiotic resistant strain
		// Develop to va*ri- various* *lifestyles*, such as biofilms and SCV
		// And it *needs* to *survive* / and *grow* under *stressors*
		// but very little is known about ah the *defence* system due to *stress*
		// And *biofilm* and *SCV*s can possess s-*specialised* pathway for ah *stress* response.
		// So from my project we will provide *new* understanding about the system pathogenic bacteria use to *defend* against stress
		// and may lead to the *new* strategy for managements of diseases.

TERMINATE	Acknowledgements [names]	// I would like to *repeat* the special thanks to my supervisors, my lab members,

	Thank You for your attention! [image]	[redacted] and [redacted] here, t he *staff* from [redacted], and [redacted] class, Dr [redacted]
		// and *friends* who helped me a *lot* in completing this research proposal
		// And thankyou very much for *attention*
		// Questions, if you want to *clarify* something
		// thank you very much.

Staging		Text
RESEARCH WARRANT [Description]	Descriptive Report:	Staphylococcus aureus is an important opportunistic pathogen that can lead to a myriad of diseases in its transit through to various sites in the body. It often colonises the skin and the anterior nares of human host in particular nasal cavity [1]. Approximately 20-30% of human population are long-term carriers, and 60% are intermittent carriers of S. aureus [2]. It can cause minor infections such as superficial skin lesions, or deep abscesses such as pneumonia, bronchitis, meningitis, osteomyelitis, endocarditis or septicemia [3]. The emergence of multiple drug resistant S. aureus both inside and outside hospitals poses a great risk for the current and future treatment. These strains are known as Methicillin-Resistant S. aureus (MRSA) [4] or more specifically HA-MRSA (Hospital Acquired MRSA) for nosocomial infections, or CA-MRSA (Community-Acquired MRSA) for community infections. Recently, the antibiotic resistance has become more serious with VRSA strains (Vancomycin Resistant S. aureus) being discovered [5]. New therapies are required to combat these strains [2]. S.aureus can switch from planktonic form to the other modes of existence including biofilms and 'Small Colony Variants' (SCVs). Both these forms of S.aureus are protected from physiologically inhospitable conditions in the host. They have been demonstrated to be less metabolically active and resist antibiotics much better than the wild type counterparts [6-7]. Infections mediated by biofilm and SCV modes of growth are rarely resolved by host defences and thereby cause several important chronic diseases. The common features of both lifestyles are that they are difficult to define and culture, leading to significant challenges in targeting therapies against them. The overarching principle for infection and disease caused by S. aureus including planktonic or switching lifestyles is its remarkable strategy to survive in the host. This involves its resistance to the host defences, in particular the innate immune system [8]. This system responds to bacterial infection by producing an array of antimicrobial agents including Reactive Oxygen Species (ROS) and Reactive Nitrogen Species (RNS). The reaction between these chemicals as well as with biomolecules in the host environment results in the formation of additional toxic chemicals. These agents include toxic reactive aldehydes generated from the oxidation of cell membranes, a process known as lipid peroxidation [9]. Therefore, S. aureus requires the ability to detoxify these damaging chemicals of the host-pathogen environment as well as the ability to grow in this environment.
	[Descriptive Report]	While it is known how S. aureus responds to NO stress [10-11] and oxidative stress [12], very little is known about how it responds to reactive aldehydes. One class of enzyme that removes reactive aldehydes is the Aldo-Keto Reductases (AKR). It has been found in both eukaryotes and prokaryotes [13-15]. Physiologically they have been shown to function as part of metabolic processes, removing endogenously produced toxic compounds as well as detoxifying exogenous toxins. Although present in many microorganisms the function of bacterial AKR is largely unknown. There have been only two bacterial AKR described from Escherichia coli [16] and Helicobacter pylori [17]. NmlR is a novel MerR-like regulator identified by Kidd et al., 2005, involved in gene regulation in respond to ROS and RNS in Neisseria gonorrhoeae [18]. It also has been studied in a number of other pathogens as an as essential component required for overcoming exogenous RNS stress within the host in order to survive. This protein has been characterised in Streptococcus pneumococcus (NmlRSP) [19] and Haemophilus influenzae (NmlRHI) [20]. In each of these bacteria, NmlR has been shown to regulate an alcohol dehydrogenase, AdhC, which is active in defence against formaldehyde and RNS. In both S. pneumoniae and H. influenzae, without any exogenous stress NmlR was required, suggesting that NmlR also functioned in the cellular metabolism [21]. The NmlR protein from S. aureus (NmlRSA) is different and appears to be regulating the expression of an AKR, not AdhC.
		The characterisation of AKR-NmlR system and the determination of its role in the stress response and in the physiology pathway of major S.aureus pathotypes and clinical isolates will form the basis of this project.

Table 81. Staging of Text D

Stage		
		Speech Includes false starts, discourse markers, mispronunciations Stress is *italicised* Gestural beats underlined  pointing towards screen  strong beat  strong open-handed beat  pinching  specific pointing on slide with laser pointer)  one-handed gesticulation  two handed gesticulation

SET-UP		// Okay /  thank you chairperson for the  *kind* introduction
		//  getting my name right [laughter]
		// good afternoon  ladies and gentlemen
		// ah before I  *proceed* to my  *slides*
		/ I would like to *acknowledge* /  that my *both* supervisors are not here
		// and  *personally* would like to thank  *Dr [redacted]* for coming
		// and  *going* through this with *me*
		// um so  *today* my topic will be on 'prognostic factors for chemotherapy-induced febrile   *neutropenia* in *adult* cancer patients'
		// which is  *very* long
		// I'm going to  *help* you understand a  *long* way
		// this is a  *systematic* review
		// Okay the *outline* for my presentation will be
		// ah I'll start off with  a *review* with a background aims and methodology
		// um actually  this is the first part that I'm gonna *do*
		// but subsequently  the next few years my plan will be on doing a *research* following the  *gaps* that actually *find* in my systematic review.

RESEARCH WARRANT	Descriptive Report	// Background: cancer incidence um and *trends*
		// I'm *sure* a lot of us know
		// that cancer incidenceValuatio
		is actually
		  *rising*
		// in a  rising trend
		// and there are actually a *lot* more people ageing
		// and cancers are associated with  older *age group*
		// and *chemotherapy* is one of the treatments for *most* cancers
		/ unlike as  compared to surgery radiotherapy and many other types of modality.
		// Um for every  kind of treatment there's always side *effects*
		// which we all know… hair loss, vomiting, mouth ulcer, diarrhoea, and many others okay
		// um but I wanna highlight to you
		// that  *neutropenia* is actually one of the commonest pathological adverse events / that patient   *face*
		// and this is the topic that I'm going to concentrate on.

	Descriptive Report	// Okay
		// In the *interest* of my audience / who are not medically trained
		// I just want to  *give* you a quick overview of what neutropenia is
		//  some facts

The definition of neutropenia is *reduction* of circulating neutrophils in the body

// this is the picture of neutrophils
// and neutrophils is actually generated in a *bone marrow*

// it  functions as first line defence against bacteria infections
// and because of *this*

// because of the  *reduction*

// patients are more   *susceptible* to infections

// and um *neutropenia* can be a condition that's   *acquired* / through giving drugs from chemotherapy
// or a person can be *born* with it
// now to move on / some *figures* about neutropenia
// it affects about 70% of cancer patients receiving chemotherapy
// and it *does* expose the patient

// and it is *related* sometimes to  life-threatening infections

// and I actually *highlighted* here

// for solid tumour like lung, breast would receive immunosuppressive chemotherapy have about  *10 to 15*%  febrile neutropenia

// and for haematology patients they are actually more   *ill*
// actually the severe risk of life-threatening infections high are *higher*
// and *unfortunately* because of this the mortality rate can range from 70 - *7* to 20%
// I just want to also highlight the fact that *duration*, degree of neutropenia

// which is the   *longer* a person has neutropenia the more severe neutropenia is
// it does make a difference in terms of *re*infection, the *types* of infection, and the *severity* of infection.

Consequential Explanation

// Okay I would also like to bring you to understanding

// that this  neutropenia sometimes can be *life-threatening*

// and can also sometimes the  very mild
// so a patient will recover from it

// so the *impact* will be, for one, life-threatening infection
// can become very *sick*
// they will end up in intensive care unit
// and sometimes um they *recover* / but with some damage to their organs like *kidney*, *lung* ..function
// the second consequence *is* / *because* this group patients are ongoing receiving chemotherapy
// then they'll have a dose *reduced*
// or there will *even delay* treatment

// all this  will *affect* the survival *outcomes*
// if they continue to have a *frequent* episodes of neutropenia
// The third impact will be on *patient* poor quality of life
// patients will actually experience a lot of *fatigue*

// and they couldn't  go back to their own *normal* function
// doing things on your own
// And sometimes it *frustrates* the patient / and caregivers

// For the next consequence will be the  *increase* in health care costs for patients

// because they *get* themselves to the hospital / they stay *longer*
// that will *increase* more health care costs to patients
// and also healthcare organisations
// and we all know that this next problem will be *healthcare* resources quite limited even in *Australia*
// I also found out

// that it also *does* impact the *bed*  *utilisation*
// because of I hear
// that from the news patients actually waiting a *long* time / before they can get to the hospital
//or into hospital *beds*.

// Some of the management of *preventing* measures /that has been *ongoing*

// like we know that *this* group of patients will require *immediate* medical attention and treatment
// and subsequently they will also continue to be *inpatient*
// because they need intensive monitoring for the *deterioration* of the condition

// sometimes *again* doctors will decide
// whether the patient *really need* some ah ah *adjustment* of *dose* or *frequency* of the treatment
/ because of the *febrile* episode
// and then they may even consider changing of the cancer treatment

[Descriptive Report]	// For  us nurses, we also look into ways of helping patients
	// doing *advising* them on diet restrictions
	//  *advising* them on protective isolation
	// so staying home and not in a public areas
	// and personal hygiene is actually really *emphasised*
	Right
	// In *this* area *a lot of* people actually looking into - especially physicians – are looking into *ways* of *improving* patient outc- uh patient *care*
	// in terms of / *well* we *know*
	// that it *does* affect quality of *life*
	// so we're trying to *move* them to ah home based therapy
	// if it is *considered*  *safe*
	// ah we looked into
	// ah doctors will look into transm- infection of microorganism
	// where they can actually *tailor* the antibiotics treatment
	/ and not give them  *multiple* types of antibiotic treatments
	// because that will cause *drug* resistance
	// Um last but not least will be that *attention* is actually more looking into risk assessment and prognostication of outcomes. Which is, I highlighted because this is my area of interest / and the area my- the *topic* of my presentation.
	// Okay just wanted to bring you to all a little bit more *practical*
	// in terms of having a some understanding of how the process is  *like* for current ah at the clinical area
	// where patient receives chemotherapy / they'll be assessed for *risk* of developing neutropenia.
	// Okay like I said
	// 70% of them would develop neutropenia.
	// So other people have  *looked* into what other factors that will *affect* them
	// or would put that into *higher* risk of developing neutropenia
	// and more uh treatment can be given in terms of  *preventing* it,
	// 'kay, if they actually had neutropenia they actually okay
	// but unfortunately if they actually have an infection then they will have *fever* that,
	// which is called *febrile neutropenia*
	// And um the  progression will be  ah patient will become *sick*
	// and they develop bacteraemia / or complications due to the infection
	// and they have to stay longer in hospital
	// or sometimes not, *not* doing very well and *not* go home
	// I, again
	// I like to differentiate my review
	// I'm not looking at the  *risk* assessment
	// but I'm looking at the  *prognostic factors* for patients with febrile neutropenia.

	// Okay um as early as late as as early as 1980s um there have been a *lot* of studies looking at restratification of this group of patients
	// because they know
	// that a *certain* group of patients will actually have  very high risk
	// and they will be very ah, ah *sick* after the  *episode*
	// and- or, then they will have also another group of  low risk
	// but where they will be very  *well* after a few days when their counts recover
	// and they will go back home with *just* oral antibiotics.
	// the reason *why* I actually want to *highlight* this is because it is important to *know*
	// that if we are treating a patient with low risk with  *very* intensive antibiotics
	// that will again *incur* a lot of *costs*
	// patient will have to stay longer at hom- in hospital
	// and not have quality like that home
	// for patients who are actually very  *sick* / and a high risk
	// they will be,
	// if you *know* the factors / we'll be able to *anticipate* and *prevent* deterioration
	// if we have identified this group of patients.
	// *So* the advantages of *re*stratification
	// Are that  they will be able to *tailor* the right treatment for the right group of patients
	// and that will save a lot of *time*
	// patient safety won't be compromised
	// and again it will benefit *both* patients and healthcare.
	// Okay again like I said
	// in 19 in the *late* 1980s to about the 2000 there are actually a few  different  *ways* of looking at risk stratification
	// for one will be the MASCC score
	// which was validated in 2000- 2000
	//  there will be a list of *high* risk and low risk factors
	// and there are *other* studies
	// which actually went on to do a *predictive* model for life-threatening neutropenia.
	// As you all can see

Description	// I can understand it's a  little bit *small*
	// but the, there are different *factors* that have been *listed* in the *tables*
	// and this caused a lot of ah *concern* for some of the practising *physicians*
	// because they do not know exactly *how significant* these *factors* are
	// how *sensitive* they are
	// and how *specific* are *they* in picking up the *right* groups of patients
	// and just imagine *if* they're supposedly *low* risk
	// and they've been sent home
	// if they develop ah *further* medical conditions or serious condition
	
	// then they will be a  *little* bit *compromised* in terms of patient safety
	// so ah in terms of *new* studies *more* and *more* studies have been like coming up with predicting individual risk
	
	// using *blood tests* to *predict* ah infection
	
	// and there were also *prognostic* evaluations on *apparently* stable condition for patients.

	// So because of this I am actually looking a way to to re- to *identify* the *most significant* risk factors
	
	// that will *help* me in to understanding what risk factors for  each group of patients
	// so that it will be more *reliable* in terms of stratification.

PROCEDURE	// So my  proposed systematic review will be one of prognostic factors
	/ *predicting* the clinical *outcomes* in this group of patients with *this* condition
	// and I will further subanalyse between *high* risk group and *low* risk group
	// and I will also differentiate between oncology and haematology patients
	
	// because if you remember haematology patients are actually more sick
	
	// and their risk of life-threatening infections are actually *much higher*.
	
	// Okay this is actually template that  [redacted] actually sort of like *showed* you
	
	// I'm just going to give you a  short overview
	
	// the types of participants will be a *adult patients* / who are actually *receiving* chemotherapy
	// and the general interest would be the prognostic *factors*
	
	// whether there are  modifiable or non-modifiable will be included in
	// The *type* of outcomes I'll be looking at will be prognostic factors that report odds ratios of relative risk
	// and see the *significance* of it
	
	// and the *type* of studies will be the usual experimental studies, f- retrospective and prospective
	
	// [Redacted] I understand
	
	// that I'm supposed to proceed to tell you further about *data analysis* and *statistics* and *critical appraisal*
	// but because my *protocol* has not been *approved* yet
	// I will not …*proceed* further until things are *more set* okay
	
	// So I hope you understand.

CONCLUSION	// So to summarise
	// the *significance* of this *review* will be that chemotherapy -induced febrile neutropenia can lead to life-threatening infection s
	// and this is the *real* clinical ah *factor* that we face every day in a hospital
	// and *because* of this / I *believe*
	// the significant prognostic factors *help* with the development of more *accurate* and reliable prediction tools
	
	// *which* will eventually help *guide* clinical decision-making
	// making patient management more effective and *safe*.

TERMINATE	// So, I thank you // and I will appreciate any questions

Table 82. Staging of Text E

			Speech Includes false starts, discourse markers, mispronunciations Stress is *italicised* Gestural beats underlined  pointing towards screen  strong beat  strong open-handed beat  pinching  specific pointing on slide  one-handed gesticulation  two handed gesticulation

SET-UP		Acknowledgement and Thanks to [names]	// Good morning everybody
			// My name is [redacted]
			// And my supervisors are Dr [redacted]
			// and my  *secondary* supervisor is Dr [redacted]
			// I would like to *warmly* welcome my supervisor for her *presence* here
			// which is *really* preferred
			// and I really admire that
			// and I'd also *like* to welcome one and all together for your presence

		Research Topic [topic title]	// Looking at my research *topic* / the topic of my study is comorbidity mental health alcohol and drugs service needs for the Aboriginal people 12 years and over who live in [redacted] regions in [redacted].

RESEARCH WARRANT	Orientation		// When a *person* is having one mental health problem *apparently* he becomes vulnerable to the *other* added on problems.
			// And look in the *current* scenario in Australia there *are* different mental health services, drug and alcohol centres ah
			// which *are* there
			// but it has been specialised towards the problems
			// but the  *main* point is that *one* individual is having *several* problems
			// *so* he has to run around to different healthcare services / to *get* this problem.
			// So this is our study which we going to *analyse* or *assess* the *needs* comorbidity *needs* of the *Aboriginal* community
			// to *stop* the *runaround* getting into different services,
			// rather we'll bring that *those* services under  *one umbrella*
			// so that *their* access of finding these services will be simpler.

		Significance of the study [sentences]	/// *Why* did we *select* Aboriginal community?
			// *in* Australia among the  *total* population, only  *2.4 percentage* of the total population ah come under Aboriginal community group
			// But *looking* at the mental health issues / nearly *4 times* their mental health problems are  *higher* compared to the ah non-Aboriginal counterparts in Australia
			/ so the significance *of* mental health is tremendously  *high* when *compared* to their Australian counterparts
			//  Aboriginal people are *not* only accessing mental health services at the level that is not commensurate with their *needs*
			// And.
			// Though the services *are* there,
			//  *looking* at the proportion of people  *visiting* the services / it's  *drastically* less.
			// So here we have got *two* things where the effect of mental illness is  *very highly* related to alcohol drug and comorbidity needs
			// but the *access* to the healthcare services is absolutely  *low*
			// so we're just going to find out *what* is the reason for all that.

	[Descriptive Report]	'Present is the reflection of the past'
		[dot points and small image]
			Factorial Explanation
			// If we want to know about the present condition it's worthwhile looking at the *past.*
			// in the past during the 1988 most of the country ah had colonisation
			// and Australia is one *among* that.
			// *because* of colonisation the it has two impacts
			// one was positive
			// where the whole conti-nation was developed in an international arena
			// at the same time it also affected people who were *living* in the land of Australia
			// *Acquisition* of land happened
			// *replacement* of traditional food
			// *denial* of access to *basic* needs
			// *forced* removal of children from the aboriginal families
			// *all* these things right from the past has got an *influencing* effect on the health of the Aboriginal community.

		Comorbidity – Does it really matter???
		
		[definition]
			// You've seen me *using* the term '*comorbidity'*
			// does it *really* matter?
			// when the *problem* arise / the per the person will come with *one* problem
			// which is *really* ah *out-blowing* among all
			// but *rather* / when we look at the *overall* picture with an eagle eye / there are
			/ like an *iceberg* / there are different *other different* problems like ah alcohol, drug-induced addictions
			// and there are so many other *sub*problems
			// which are co-*coexisting* along with this one
			// which is *hindered*
			// so though this person is *treated* to his *main* presenting problem
			// there are the *sub*problems
			// which is *not*/ which is *overseen*
			// and that's because of reason that he either runs into the different health care service,
			// or just finds and *sits*
			// just leaves *every* care towards anonymity
			// and doesn't get the *help*
			// so it happens either you are *over using* health service
			/ or *not* at all using the health service at *all*.

	Descriptive Report	Need of the Hour – Aboriginal Consumer Centred Care
		[full sentences, citation]
			// So we think Aboriginal consumer centred care is the *need* of the hour
			// because comorbidity exists / comorbidity exists among *70* –
			// sorry - nearly *70%* of the mental health persons *have* comorbidity problems
			// and comorbidity problems are *multifaceted*
			// it is not *one* problem
			// they're going to have *different* problem
			// the *most* possibility to have *different* problems
			// like alcohol problem gambling increase suicide rates getting into the cell like incarceration anxiety delinquency personality problems and self-harm and so on and so forth
			// so *where* are, *where* are they getting treatment
			// and *how* are they getting the care?

	Description	Consequence of Comorbidity [full sentences, cited]	**Consequential Explanation**
			// So with *all* these comorbidities / what is the problem
			// meaning what are the *consequences* of all these comorbidities?
			// The *Australian* Bureau of Statistics has revealed
			// *that* nearly *33* percentage of the *male* and *15* percentage of the female Aboriginal people's fatality is because of *the* comorbidity
			// and because of *intentional* or not unintentional self-*harm*
			// so there's *so* much of *life* which is just *going* ah *abandoned /* because of this comorbidity
			// It can *also* affect the children
			// because children are s-
			// ah *everybody* *most* of them have kids at home
			// and *most* of the people in the aboriginal community / when they *have* mental problems / *these* kids / who are *growing* up in *such* conditions / would think
			// *yeah*
			// *having* a family with *mental* health problems / or *having* a family with *excess alcohol* is *normal* to them
			// and we *don't* want to lose our kids
			// to have another dispaired sort of family environment
			// it is *important* that we *give* them a very *normal*
			// or at least *optimal* or *near-normal* kind of family environment.

		Research question [question mark icon and research question]
		Aims and Objectives [sentences]
			// So *back* to the research question
			// we're going to *a-* /we're going to *assess*
			// *what* are the *comorbidity mental* health *service needs* for the *aboriginal* community
			// the aims of the study *are*/ study *is* / First, to identify the mental health comorbidity service *needs*
			// to *ascertain* the services and treatment *strategies* for the individual or the family
			// to *determine* the *difficulties* and the *challenges* they face
			// and to *collaboratively* work *along* with the community members, Aboriginal community members
			// to *identify* the *strategies* very *effective* for effective *utilisation*
			// so it is *not* going to be a *one* man show
			// I'm just going to work *along* with the community along with the aboriginal community members
			// *find* out
			// put ourselves in *their* shoes
			// *find* out
			// okay / *what* are the *impending* needs that has to be faced.

	Descriptive Report	Review of Literature [bullets and small imagee of books]	// To know about the *better* knowledge it's always better to look at the *previous* research studies
			// or the *review* of *literature*
			// for a *good clarity* the review of the literature is divided into five.
			// *One* is Aboriginal people and mental problems / Aboriginal people and alcohol and drug problems / comorbidity and other coexisting mental problems / *challenges* faced by that *Aboriginal* community with comorbidity / and the *provision* of comorbidity services.
			// In introduction of *this* generally speaking about the mental health *aspects* the aboriginal people have a dis- *different belief* about the mental health aspect / when compared to *the other* non-aboriginal Australian population
			// Aboriginal people *don't* take *off* mental health as a separate aspect away from their ah *five* aspects

		View of Mental Health [bullets]	// They *think* that mental health is *interlinked* or *collab'ed* with the family, culture, society, spirituality, and l- and land.
			// And this is very *important* / that when we work along with them / that we have a *very good clear* idea about their *beliefs*, their cultural *aspects* / and so on and so forth.
			// Aboriginal people and mental health problems.
			// *Even* today, the young people are *so much* so dis..turbed with their mental health arised through the *family*.

		1.Aboriginal people and Mental Health Problems [bullets]	// When the *parents* are affected with a mental health problem / the next person to take *care* / which is / who is in charge is *the …young* person who is in the family.
			// And it's *less* likely *that* / because of *that* over-burden in the *family* / they are *less* likely to access the mental health service.
			// And *in* the *teenager*, in the youth group usually the *peer* .. *influence* ..*much*
			// *but* in Aboriginal people, *research* says
			// that *more* than the peer relationship the *family* burdens are influencing them *much*.
			// So it's *important* to identity the *individuals* / and also the *family* and the *community* whoever is involved in that.
			// And *even today* they seek traditional healers.
			// So it is *important* that we have to give *importance* and *value* to the *traditional* health system
			// and through them *collaboratively* we can *bring* them into the… normal… ah *usual*.. way of health service.
			// Aboriginal people a- and alcohol and drug problems
			// it is *found*
			// that alcohol consumption is the *greatest* health problems faced by the Aboriginal people
			// and *major* contributing factor for high risk of *death*.

		2.Aboriginal people – Alcohol and drug problems [bullets, cited]	// *Alcohol consumption* is h- is *commonly* seen collab'ed with… *depression*
			// but *there* was an *interesting* study done by Matthew
			// it said
			// that the people who were consuming alcohol they *drink* / to *decrease* their level of depression
			// but to *their* surprise it was found
			// that *those* people / *whoever* has had consuming alcohol they had *increased* rates of depression
			// and it was *very* hard for them to be *rehabilitated*
			// and the *prognosis* was *poor*
			// Which was an interesting *study*

		3.Comorbidity and coexisting mental health disorders [list, cited]	// Comorbidity and the coexisting mental health disorder
			// Mental ill health is potentially *damaging*
			// it's *not* only the *psychology*
			/ it also affects the *physical economic* and the *social* environment.
			// *Other* problems like depression, suicide, violence and increased number of foster care and incarceration are the other *added* problems / that they're *faced* with.
			// *What* are the *challenges* for the Aboriginal comorbidity till now?
			// if there's *confidentiality*
			// *still* there is a que- a *big* question that says
			// do they have *confidence* in the *current* health care system
			// For some it says *yes*
			// and for others they're *still* not confident
			// and they - they always *suspect*
			/ the, th-… meaning - they ..always suspect
			// that *my* ah confidentiality / my demographic details / will *that* be *maintained* confidence?
			// *Still* that's a question to be answered.
			// And the *longevity*

		4.Challenges for Aboriginal comorbidity [list]	// in the *current scenario* there- there is *plenty* time
			// or they have to *wait* for / at least for most of them / for a *year* to get *into* the service
			// and by the *time* that they get into the service/ they *don't want* it
			// or they just- they *don't* want to give up the *time*
			// but *studies* have proved *that* when whe- when is *longevity* / when the *time* is very *less* / they're able to give up the *time*
			// so it's *important that* we *really rectify this* challenge.
			// Consumer and carer perception.
			// Consumer and carer perception.
			// *Whoever* is delivering the care / they feel that the person should have *some* knowledge about the aboriginal community and their culture.
			// When they have that they really develop their *trust*
			// and they *really* get along well
			// and really get this help.
			// And prevention campaign
			// prevention is always better than c- cure
			// so they *really* encourage
			// when certain aspects are *found* in early / it could be *treated*
			// and we could have a real good wellbeing.
			// *Negative* experience
			// like *our* human brain has got capacity to *identify* even a little pinch of disparity / or ah-sort of *racism*
			// so this is *still* existing
			// which gives a negative experience to them
			// and it is also is stopping them / getting to the health care service.
			// An eclectic mix of hurdles
			// there are a *lot* of problems
			// they have *kids*
			// they have *lots* of kids
			// and there's broken family
			// they have to travel from their own home / maybe from [redacted] to [redacted]
			// so there's *lot* and *lots* of problems that they're faced with
			// and comorbidity is also one
			// how about *we're* going to reach to this comorbidity with *all* these hurdles.

		5.Provision of Comorbidity services	// And provision of comorbidity services.
			// There are now being *lots* of research is being *done* with comorbidity service
			// but *still* ah there, the-, there are *so* many other issues
			// like *mental* health first aid is also there
			// where these people / where they also have consumed *increased* alcohol
			// they're taken / and they have detoxify
			// they- they- they're *taken* in into a detention shent- *cen*tre
			// and when they are *fine* by the morning / they get ah ah *treatment*
			// or at *least* get health education
			// and then get *back* to the home
			// rather than being ah ah *imprisoned*.
			// Aboriginal youth and mental health
			// This *also* proves
			// that when *we* include the *Aboriginal people from* the community into the health care system / there's a *better* promising res- results of it.

		[smartchart]	// And *sustained* model of care / sustained model of care.
			// *Certain* health care institutions, mainly the *finance* is a *big* problem.
			// When the *finance* is over / then the health care service which was *rendered* to the community *stops*
			// so that also has to be rectified.
			And *Shared care* network.

			// This… this…. this has got a proven effect in Canada
			// in Canadian studies been taken is, Canada US and New Zealand
			// all these nations also have similar sort of Aboriginal community people
			// and they also have been *colonised*.
			// This is a study done by in Canada
			/ where the *rural* mental health team collab'ed with the first nations who were the Aboriginal people in Canada
			/ and the visiting traditional healers with the community health practitioners in the Aboriginal community / and the visiting psychiatrist / and the primary healthcare.
			// When all these… work together
			/ there was a promising *effect* in the study
			// and at the *same* time / it had *other* effects / like re-including people into the system
			// this was a big problem
			// and also to maintain them
			// meaning there are so many healthcare services but
			// this service *couldn't* find, *couldn't* find out all of these alcohol and drug service/ which was rendered
			// so those were the *little* pitfalls in this study.

PROCEDURE		Theoretical Base [list]	// So ..my study is going to be based on the critical social the – ah - theory.
			// It's very *important* / before getting to the methodology /it's very *important* and *imperative* / that we should *know* about the *knowledge* base.
			// Critical theory puts *criticism* at the centre of knowledge
			// it's *not* one man just *working* and *observing*
			// it is *self*-reflection
			// working *along* as a collaborative approach
			// partnership approach
			// with a team members / which is the *aboriginal* community / *elders* / and the *persons* involved from the family / and the extended family
			// and *collaboratively* working along.
			// it's not *on* the people / but it is *for* the people / … and *with* the people.
			// The *methodology* is going to be based on the *critical* approach theory
			// but there is going to be participatory *action* research.

		Methodology
		
		[list arranged visually]
			// Where the *plan* is / ah we've got an advisory *committee* with my *supervisors* / and there are *eight* other members in the *big* project
			// called the [*redacted*] team
			// which I'll *tell* about it the end of the… session
			// and we'll all *plan* together with the with the *aboriginal* community *elder*
			// *she* would tell us
			// like how often we will *have* a focus group / in a focus group for the members *involved* / and *things* like that
			// just *planning* stage
			// and then *action*
			// and then we'll all *plan* / how often we'll *meet*
			// and about what discussions we will make
			// and what sort of questions we'll ask

			// open-ended //
			or or *what* are the *different* aspects we will do about.
			// and *listening*
			
			// this is the *main* important things
			// like *listening* when there is a need
			// *how* are you *getting* into the system?
			// *All* those *things* will be really clearly identified
			
			// and the *community* members will be really *listened*
			// and their *points* will be taken into consideration.
			// And *reflection*.

		Study Population [sentences]	// Finally we'll *put* this problem *in* the centre
			// and let's *reflect* on it along with a big team.
			// So this is going to be my methodology.
			// Study population is going to be in [redacted]
			
			// because [redacted] is one of the areas is the *second* misfortune area in [redacted] in South Aus- in the whole Australia
			// and we have got nearly *6000* population of Aboriginsal people in this area.

		Tool for Data Collection [name]	// And the tool will be open-ended structured question
			
			// and the *data* analysis / as my study is going to be *qualitative*
			// it's going to be *Nvivo*.

		Ethical Considerations [list]	// Ethical considerations will be *done* with *two* organisations // and it's *so* important that *any* research should add up to the knowledge

		Furute of this Research [bullets]	// so *my* research will add, will add up to the *big* no- ah big nob- project
			
			// they're called the [redacted] team
			// it's called [redacted]
			
			// it has got an *aim* to improve the comorbidity care of mental health alcohol and other drugs services in the [redacted] health service
			// So when I finish my study / I will submit to *this* [*redacted*] team
			
			// and we will *work* together from then on.

TERMINATE		Thank You All [names]	// So with this I would like to thank [redacted]
			// although she is not here
			// and [*redacted*] and Dr [*redacted*] for their presence
			
			// and *all* my team members over here.
			// Thankyou.

Appendix 2 Appraisal analysis

Key

			Appraisal Resource	Coding annotation
Engagement			Monogloss	[MG]
	Heterogloss	contractive	Deny	[HG>DNY]
			Counter	[HG>CNT]
			Pronounce	[HG>PRN]
			Concur	[HG>CON]
			Endorse	[HG>END]
			Justify	[HG>JST]
		expansive	Entertain	[HG<ENT]
			Acknowledge	[HG<ACK]
			Distance	[HG<DIS]

			Inscribed	Invoked
Attitude	Judgement	Social Esteem	**[+/-JUD:EST]**	[+/-JUD:EST]
		Social Sanction	**[+/-JUD:SAN]**	[+/-JUD:SAN]
	Affect	un/happiness	**[+/-AFF:HAP]**	[+/-AFF:HAP]
		dis/inclination	**[+/-AFF:INC]**	[+/-AFF:INC]
		in/security	**[+/-AFF:SEC]**	[+/-AFF:SEC]
		dis/satisfaction	**[+/-AFF:SAT]**	[+/-AFF:SAT]
	Appreciation	reaction	**[+/-APP:REA]**	[+/-APP:REA]
		composition	**[+/-APP:COM]**	[+/-APP:COM]
		valuation	**[+/-APP:VAL]**	[+/-APP:VAL]
Graduation	Force	de/intensification	**[↑/↓ FOR:INT]**	[↑/↓ FOR:INT]
		quantification	**[↑/↓ FOR:QNT]**	[↑/↓ FOR:QNT]
		enhancement	**[↑/↓ FOR:ENH]**	[↑/↓ FOR:ENH]
	Focus	valuer	**[^/˅ FOC:VLR]**	[^/˅ FOC:VLR]
		fulfilment	**[^/˅ FOC:FUL]**	[^/˅ FOC:FUL]

2.1 Text A speech Appraisal Analysis

Well. Thank **[+AFF:HAP]** you for allowing [+JUD:SAN] me to present today [^ FOC:VLR] my thesis topic which I think [HG<ENT] will revolve around [˅ FOC:VLR] refractory chronic rhinosinusitis: pathology and surgical management.

Chronic rhinosinusitis [-APP:VAL] is [MG] an important **[+APP:VAL]** disease that affects [MG] around 12.5% [↑ FOR:QNT] of the population. Patients usually [↑ FOR:ENH] complain [MG] [-AFF:HAP] of headaches [-AFF:HAP] in the cheek area or in the head [-AFF:HAP] facial pain [-AFF:HAP] ah, and rhinorreah, postnasal drip [-APP:VAL] more than three months [↑ FOR:QNT]. An interesting **[+APP:REA]** part of the disease [-APP:VAL] is [MG] that it exerts a higher **[↑ FOR:QNT]** toll **[-APP:VAL]** on the quality of the life **[+APP:VAL]** of the patient than do, disease- than other famous **[+APP:VAL]** diseases [-APP:VAL], like [^ FOC:VLR] congestive heart failure [-APP:VAL], angina [-APP:VAL], and back pain [^ FOC:VLR] – in the areas of bodily pain [-APP:VAL] and social function.

The treatment of chronic rhinosinusitis [-APP:VAL] is done [MG] through medical management, however [HG>CNT], a great deal [↑ FOR:INT] number [↑ FOR:QNT] of patients pass on to require surgical management [-APP:VAL], and since the invention of the endoscope, ah, in the 1980s [↑ /FOR:QNT], ah functional endoscopic sinus surgery ah has risen [↑ FOR:INT] to be [MG] the gold standard **[+APP:VAL]** in the surgical management of chronic rhinosinusitis [-APP:VAL]. The concept of functional surgery is [MG] that it clears [+APP:VAL] disease [-APP:VAL] at the ostiomeatal complex. And I will show you here [HG>JST], this is a diagram of the sinuses; this is the ostiomeatal complex area, where-, which is [MG] the most **[↑ FOR:INT]** important **[+APP:VAL]** ah area of disease [-APP:VAL]. Ah so the concept or the hypothesis of ah of this obstructive theory is [MG] that, an obstruction [-APP:VAL] that occurs in the ostiomeatal complex area, leads to stasis of the secretions from the sinuses and ah in-, intrasinus infection [-APP:VAL] and mucosal ah thickening [-APP:VAL], and the concept of the surgery is [MG] that by relieving [+APP:VAL] obstruction [-APP:VAL], disease [-APP:VAL] can be cleared [+APP:VAL], from the sinuses. And this concept was [MG] hugely **[↑ FOR:INT]** successful **[+APP:VAL]**. Success rates **[+APP:VAL]** for functional surgery is [MG] about 90% **[↑ /FOR:QNT]** of primary cases. But [HG>CNT] it falls **[-APP:VAL]** 70% **[↑ /FOR:QNT]** for patients who are doing it for a second [↑ FOR:QNT] time. And there are [HG>CNT] a certain [↑ FOR:INT] group of patients who appear to be [HG<ENT] resistant [-APP:VAL] to any [↑ FOR:INT] type [↑ FOR:QNT] of surgical, ah, management [-APP:VAL] and require multiple [↑ /FOR:QNT] and multiple [↑ FOR:INT], surgeries [-APP:VAL]. And these patients, we call them as [MG] suffer **[-AFF:HAP]** from refractory chronic rhinosinusitis [-APP:VAL]. That is, no [HG>DNY] matter how [↑ FOR:INT] number [↑ FOR:QNT] of surgeries they... go through, they are resistant [-

APP:VAL] and require further revisions [-APP:VAL], and have persistent [↑ FOR:QNT] symptoms [-APP:VAL]. However [HG>CNT], functional surgery is not [HG>DNY] the only [↑/FOR:QNT] option [+APP:VAL]. There has b-, in the literature, there has been alternative surgical tr-, -ies, that have been reported [HG<ACK] to, to give better **[+APP:VAL]** outcomes in this subset of patients. These include [MG] [^ FOC:VLR] the Caldwell-Luc, canine fossa trephines, frontal drillout for the frontal sinus or radical ethmoidectomies, and Denker's nasalisation procedures. These procedures do not [HG>DNY] depend only upon relieving [+APP:VAL] osteol obstructions, but [HG>CNT] they clear [+APP:VAL] as much [↑ FOR:QNT] of the diseased tissue [-APP:VAL] in the sinuses. Ch-, and in the extreme [↑ FOR:INT] cases [-APP:VAL], like [^ FOC:VLR] in Denker's nasalisation procedure, creating almost [↓ FOR:INT] like [˅ FOC:VLR] one great [↑ FOR:INT] cavity of all [↑ FOR:INT] the... sinus cavities. Here is [MG] some [˅ FOC:VLR] data from our department which still [HG>CNT] hasn't [HG>DNY] been published. This is [MG] a survival analysis of, ah functional surgery, again it's [MG] ah another [↑ FOR:QNT] group of patients which have undergone radical surgery, and in our case[↑ FOR:QNT], this was [MG] a frontal drillout, plus a canine fossa for the maxillary sinus. Here, this [MG], ah, survival curve. So, you can see [HG>JST], as the curve descends, this means [MG] that once a, a patient has undergone ah a revision surgery, that means [MG] - this is the month post-operatively, after surgery, and patients start from here, and this is the functional phase - so as a patient requires a revision, the curve... goes a bit [↓ FOR:QNT] down. And we see here [HG>JST] the difference between the, the end of the post-operative need for revisions [-APP:VAL] between this group, the functional group, and radical group, and this difference was statistically significant [+APP:VAL] between two groups, implying [HG>END] that radical surgery in this group ah offered ah better **[+APP:VAL]** post-operative survival [+APP:VAL], as in a lesser risk **[+APP:VAL]** of ah revision surgeries. And here comes the argument, but [HG>CNT], if, ah, if [HG<ENT] we have some [↓ FOR:QNT] patients who get be-, who might [HG<ENT] get better **[+APP:VAL]** outcomes from radical surgery, wh- does [HG<ENT] this mean that we should ah, do radical surgery as the routine standard [+APP:VAL] in the care [+APP:VAL] of chronic rhinosinusitis patients? And who [HG<ENT] are these patients which we can select who would benefit **[+APP:VAL]** from radical surgery versus the functional? And if [HG<ENT] at all, ah radical surgery wi-, will then lead to ah an extra **[↑ FOR:QNT]** benefit **[+APP:VAL]** over functional surgery. So, refractory chronic rhinosinusitis [-APP:VAL], ah, my question ultimate **[+APP:VAL]** will be 'Why [HG<ENT] do patients fa- these patients – fail surgery [-APP:VAL] [-JUD:EST] and how [HG<ENT] can we better **[+APP:VAL]** identify them?'

We will investigate two hypotheses, ah in these patients, the first- ah these hypotheses are somewhat [˅ FOC:VLR] related. The first hypothesis is the 'inflammatory load' hypothesis, and the second one is an 'irreversible disease' hypothesis. The inflammatory load hypothesis was based on two observations: number one, that patients with asthma [-APP:VAL] or aspirin intolerance [-APP:VAL] usually [↑ FOR:ENH] have worse **[↑ FOR:INT] [-APP:VAL]** outcomes **[-APP:VAL]** and higher [↑ FOR:QNT] needs for revision surgeries [-APP:VAL], and persistent post-operative symptoms [-APP:VAL]; number two, patient ah patients who have higher [↑ FOR:QNT] markers of eosinophilic infiltration [-APP:VAL], as in, for example [^ FOC:VLR], higher [↑ FOR:INT] ah peripheral eosinophilia [-APP:VAL], or, for example [^ FOC:VLR], ah, higher [↑ FOR:QNT] tissue eosinophilia [-APP:VAL] in their sinus mucosa, were reported [HG<ACK] to have worse **[↑ FOR:INT] [-APP:VAL]** outcomes than those who haven't [HG>DNY]. And since we know [HG>PRN] that patients with asthma [-APP:VAL] or aspirin intolerance [-APP:VAL] already have a higher ah degree[↑ FOR:QNT] of eosinophilia [-APP:VAL] in, in their mucosa, then, we can assume [HG>PRN] that, in some [↓ FOR:QNT] patients, ah, the amount of eosinphilic load [-APP:VAL] in their mucosa reaches a critical mass, beyond which [HG>CNT] just opening the sinus ostea ah wouldn't [HG>DNY] add, ah wouldn't [HG>DNY] be of benefit. So this is ah this is a figure of a, ah, a fission reaction, as in the atomic bomb. This fission reaction to occur, the initial mass must reach a critical mass so that the reaction continues. This can be imagined [HG<ENT] in the sinuses where we have eosinophilia [-APP:VAL] reaching a degree beyond- beyond which just opening the sinus ostea does not [HG>DNY] make any [↑ FOR:INT] difference for the patients. And, and can thus be explained that radical surgery perhaps [HG<ENT] offers better **[↑ FOR:INT] [+APP:VAL]** outcomes because it causes a more [↑ FOR:INT] increased [↑ FOR:QNT] removal of all these inflammatory load [-APP:VAL] in the mucosa. And all [↑ FOR:QNT] the factors that lead the disease propa-, propagation, [-APP:VAL] these include

[^ FOC:VLR] biofilms, ah staphylococcus enterotoxins, ah or fungal antigens. Or even [HG>CNT] osteitic bone. And the second ah hypothesis we're going to investigate is an irreversible disease[-APP:VAL] hypothesis. This was based on research done in asthma where this is the old [↓ FOR:QNT][-APP:VAL] definition of asthma which was thought [HG<DST] to be reversible disease [-APP:VAL]. However [HG>CNT], some patients were reported [HG<ACK] to have irreversible disease [-APP:VAL], as in irreversible decline in the respiratory function **[-APP:VAL]** over time. It was found [HG>END] that this irreversible loss of function **[-APP:VAL]** is due to physical alterations in the bronchi, which will then cause remodelling, and then it was suggested [HG<ENT] that asthma is a disease process that leads to remodelling in the sinuses.
This is a slide, it's the pathologist's slide, from ah a patient with asthma[-APP:VAL], we can see here [HG>JST] the remodelling ah, remodelling ah, the symptoms of remodelling here as in a thick subepithelial basement membrane [-APP:VAL], and hypertrophy of the smooth muscles [-APP:VAL]. This is another slide also from a bronchus. We have here glandular hypertrophy [-APP:VAL], goblet cells, glandular hypertrophy [-APP:VAL], and, a thick subepithelial basement membrane [-APP:VAL], and smooth muscle hypertrophy [-APP:VAL]. And of course the eosinophilic infiltration [-APP:VAL]. And these were the asthma treatment guidelines before they discovered [HG>END] remodelling, however [HG>CNT] after they discovered [HG>END] remodelling and knowing [HG>END] that some patients might ultimately ah develop irreversible disease [-APP:VAL], they decided that the mild patients were, were not [HG>DNY] indicated for anti-inflammatory medication, they decide to split that into 'mild intermittent' and 'mild persistent', and the mild persistent group were indicated ah for daily steroid anti-inflammatory medication, which was beginning there wasn't [HG>DNY] such a case. So they added it in an attempt [˅ FOC:FUL] to control these patients and perhaps [HG<ENT] to delay the onset of potential irreversible. This is, these are [MG] slides from a sinus, and we see here [HG>JST] the same ah features of remodelling occurring in the sinuses, it's, it's the same as occurring as, is a very [↑ FOR:INT] thick ah subepithelial basement membrane [-APP:VAL] and here some [↓ FOR:QNT] eosinophilic infiltration [-APP:VAL], we, here, this, we see [HG>JST] the ah epithelial cell dispersions or ulcers [-APP:VAL], glandular hypertrophy [-APP:VAL], loss of [-APP:VAL] – here, this is almost [↑ FOR:QNT] no [HG>DNY] remodelling with the cilia intact [+APP:VAL], here we have the cilia almost [↑ FOR:QNT] gone [-APP:VAL] – and this is a comparative slide, this one is from a, ah, an ah from a bronchus in an asthma patient, and this slide is from ah the sinuses. We-, we see [HG>JST] here how does- the pathology is almost the same [↑ FOR:QNT]. Exc- exc- except for perhaps [HG>CON] the, the, ah smooth muscles which are not [HG>DNY] present in the sinus but [HG>CNT] we can see [HG>JST] here that the pathology is almost [↑ FOR:QNT] the same with the thick, ah, thick ah basement membrane [-APP:VAL] and loss of cilia [-APP:VAL]. So I, ah, we will going to study the inflammation [-APP:VAL] – especially the eosinophilic part – and the remodelling, in an attempt [˅ FOC:FUL] to decipher perhaps [HG<ENT] the role of these in ah reaching a state of surgically irreversible disease[-APP:VAL].

So, our methodology will be comparing the ah patients who have a good **[+APP:VAL]** prognosis, patients with mild disease [-APP:VAL], for- with patients who have undergone multiple [↑ FOR:QNT] revisions and did not [HG>DNY] respond to the initial ah therapy. And we might [HG<ENT] also compare over time, ah patients who have done a first surgery versus their mucosae at a later, ah, point in time, perhaps [HG<ENT] we find difference in the mucosa as in, this is increased [↑ FOR:QNT] ah thickness [-APP:VAL] in the basement membrane or increased [↑ FOR:QNT] inflammation [-APP:VAL] over time. So, in the mucosa we'll be looking at [↓ FOR:ENH] the morphology, the eosinophilic markers, and the remodelling factors. The morphology these include [^ FOC:VLR] as we have seen [HG>JST] in the previous slide eosinophils and trying [˅ FOC:FUL] to quantify that, ah the epithelial, the basement membrane, which is made of collagen and perhaps we might [HG<ENT] use a special stain which is a 'trichrome' stain, or a 'picrosirius' stain. Then, using immunohistochemistry, we'll look at ah various markers for eosinophilic infiltration – these include [^ FOC:VLR] the ECPs and MBPs and EDN, which have been correlated with disease severity [-APP:VAL] before, and more of these were done in asthma research. Ah and then at the end we will be looking at the remodelling which include [^ FOC:VLR] the basement membrane thickness, and, using immunohistochemistry, several ah cytokines, or, ah, which were found [HG>END] to be very **[↑ FOR:INT]** important **[+APP:VAL]** in ah the process of remodelling. At the end, ah we will try [˅ FOC:FUL] to correlate that with the database we have with the outcome of the patient; they have a poor outcome **[-APP:VAL]** or they have ah, a good outcome **[+APP:VAL]**. And

at the end introduce the radical surgery and how did radical surgery help relieve [+APP:VAL] that, or what is the effect of different types of surgery on the muscosa.

So I'd like **[+AFF:INC]** to thank **[+AFF:HAP]** all these ah University of [redacted] and supervisor and colleagues and [redacted] and Dr [redacted] and all of the [redacted] staff... so ah....

2.2 Text B speech Appraisal Analysis

Um. Good **[+APP:VAL]** morning ladies and gentlemen and thank **[+AFF:HAP]** you for coming. Um. I'm going to present [MG] my research proposals with the title of 'The role of dietary calcium on Vitamin D receptor mediated bone cell activities to enhance bone structure'. This project is [MG] supervised by Professor [redacted] and co supervised by [redacted]. Forgot the pointer.

This project, was [MG] first built, to fight **[-AFF:INC]** the osteoporosis demon **[-APP:VAL][-JUD:SAN]**. Osteoporosis is [MG] age-related bone brittling with normal [+APP:VAL] mineralisation process. Age-related meanings [MG] that this process occurs as the person age, once they reach the peak bone mass volume the bone mass will decrease slightly with the normal mineralisation pro-process. This process is, this, this is is [MG] a major **[↑ FOR:INT]** health problems **[-APP:VAL]** because it's affecting not [HG>DNY] only in developed country but [HG>CNT] also in developing country such as mine [↑ FOR:QNT]. There are [MG] one in two female[↑ FOR:QNT] and one in four male Australian [↑ FOR:QNT] are affected by this disease[-APP:VAL], and about 32% of male [↑ FOR:QNT] and about 30, about 22% of female[↑ FOR:QNT], are affected by osetoperosis in my country [↑ FOR:QNT], therefore it's really **[↑ FOR:INT]** important **[+APP:VAL]** to fight **[-AFF:INC]** this osteoperosis. The most [↑ FOR:INT] common [↑ FOR:ENH] and widely used preventio- ah, the most [↑ FOR:INT] common [↑ FOR:ENH] and widely used [↑ FOR:QNT] methods to fight **[-AFF:INC]** it is a prevention, because if ah treated is very [↑ FOR:INT] costly **[-APP:VAL]** because osteoperosis causes ah fracture [-APP:VAL] and disability [-APP:VAL] throughout life [↑ FOR:QNT]. The most [↑ FOR:INT] common [↑ FOR:ENH] use of prevention is vitamin D supplementation.
Vitamin D is [MG] known as a bone vitamin because it has related [MG] to do with the rickets disease [-APP:VAL] like [^ FOC:VLR] in about [˅ FOC:VLR] 1600 or 1700 and after that in about [˅ FOC:VLR] 1950s or 1970s [↑ FOR:QNT] we found out [MG] that vitamin D is not [HG>DNY] just [HG>CNT] a vitamin, it's a hormone, which acts [MG] on various cells therefore it has various uh health effects. The vitamin D has [MG] a metabolic pathway as follows. [Coughs] From the skin, with the exposure of sun or UVB, the provitamin B vitamin D will be changed into [MG] previtamin D and having an isomerisation will change them into [MG] D3. The D3 will enter [MG] the circulation, but [HG>CNT] not [HG>DNY] only from the sun, you can also get it from the dietary you can get it from milk, fish or even [HG>CNT] from the supplement. The circulatory D3 will underwent [MG] -uh, hydroxylation by the 25 hydroxylates or normally CYP27-uh or CYP 2r1 and change into 25 hydroxy vitamin d, is a storage form. The 25 hydroxy vitamin d is [MG] also a nutritional status of vitamin D It's come in to use to know [MG] whether they we have a deficiency [-APP:VAL] or sufficiency of vitamin D by the measuring of the 25 D hydroxy vitamin D (clears throat). The 25 hydroxy vitamin d and then change into [MG] 125 hydroxy vitamin d which is [MG] an active form of vitamin d. The active form vitamin d was changed [MG] by 1 alpha hydroxylate or CYP 27 B1. The CYP27B1 is activated [MG] by parathyroid hormones, or PTH and and the the active have [MG] a feedback in the enzyme therefore its can stops [MG] the the CYP27b1 activity. The active form of vitamin d in the serum was carried [MG] by DBP - uh vitamin D binding protein.
The vitamin D binding proteins and then transferred [MG] the vitamin d to various cells, and the most [↑ FOR:INT] common and widely [↑ FOR:ENH] known effect of vitamin D is [MG] in intestine. In the intestine, the vitamin D will enhance [MG] calcium absorption, and also goes [MG] to the bone, where it where it binds [MG] with the osetoclast uh sorry osetoblast and increase [↑ FOR:QNT] the osteoclast function. This is [MG] the most [↑ FOR:INT] commonly [↑ FOR:ENH] known of the effects of vitamin D, it increase [↑ FOR:QNT] osteoclast function, osteoclast is [MG] a bone cell that that important **[+APP:VAL]** for the bone resorption process. But [HG>CNT] osteoblast, here, is ah cells that affect bone formation. Therefore, there is a question whether vitamin D have effects on bone, bone formation through the activity of osteoblasts and osteocytes. But [HG>CNT], what is bone resorption and bone formation? This is [MG] bone resorption and bone formation models currently

known. The hematopoietic stem cell will differentiate [MG] into osteoclast, osteoclast is the one that activate to resorb the bone. Resorb mean [MG] that the the thick bone mass will be chewed [MG] and make a smaller part and the calcium from the bone will be released to the blood. This process is [MG] activated by the lining cells and the osteoblastic stomal cells, but [HG>CNT] the mechanism we still not [HG>DNY] know [-APP:COM]. After this resorption process, uh, the resorption process also by osteoblastic stomal cells and also from the ost, mesenchymal stem cell. The mesenchymal stem cell is the precursor or the ah, the precursor of the osteoblast. The osteoblast, this is [MG] the cells, oh sorry, ah, ok, the mesenchymal stem cell will then differentiate into osteoblast. Osteoblasts signal the osteoclast to begin the resorption process, and after the resorption there's a formation process which are controlled by the osteoblast. Mesenchymal stem cell are change into immature pro-osteogenic-uh-pro-osteogenical cells and change in er proliferate and differentiate in to immature osteoblasts and then become osteo-, mature osteoblast which lay down minerals, and after laying down minerals they become entrapped in the minerals they have built, and become osteocyts. These process controlling every and each of these particle is still very [↑FOR:INT] much [↑FOR:INT] in question [HG<ENT]. Therefore, we are trying to find [⌄FOC:FUL] how the vitamin D can affect these this process. The process can happen through two mechanism. The first one is [MG] the genomic action and the second one is non genomic action. The genomic action requires the binding of the vitamin D to the vitamin d receptor which then act as ligand-activated transcription factor to the vitamin D response element in vitamin d responsive gene promoter. The promoter will control the genes downstream of the promoter, and it will enhance or even [HG>CNT] suppress the gene expression and therefore, increase [↑FOR:QNT] or decrease [↓FOR:QNT] the protein production and then change the cellular function or maybe the system function. It's said [HG<ACK] that the vitamin D control at least [↑FOR:INT] about three percents [↑FOR:QNT] of total [↑FOR:INT] human and mouse genome. That's why it's very [↑FOR:INT] widely [↑FOR:QNT] commonly [↑FOR:ENH] exists in various cells, it's very **[↑FOR:INT]** important **[+APP:VAL]** for the cell differentiation and maturation. This is [MG] why vitamin D is a candidate to find out [⌄FOC:VLR] the process we, I have, shown you before.

The rapid nongenomic action [coughs] involve [MG] the action of vitamin D through the intercellular uh induction ah, transduction process or the intercellular cell uh intercellular process. This is [MG] the process which occurs in cells. The vitamin D active will enter [MG] the cells and bind [MG] to the genomic action, this is the one that I already mentioned before, and it alter the gene expression and one of them is osteo calcium promoter. I stress on [HG>PRN] osteocalcium promoter because this is the gene that control the VDR activities uh sorry VDR activity and erm transcription in mature osteoblast. And this has a cross talk between the genomic action and the nongenomic action. This is the nongenomic action I mentioned before [HG>PRN] that entry of the vitamin d will activate the signal transduction intracellular, and change the calcium level and activate various second messengers and various uh intracellular cells uh intracellular signalling. This not [HG>DNY] only happen in monocyte and monocyte and osteoblasts monocyte is the precursor of osteoclasts. It also happen in intestine, muscular, adipose sites, and pancreas b cells. Therefore it is widely happen or occur in in the cells.

The [cough] the activities of bone cells are present by their CYP27 activities and by the VDR. It means that - this is the ligands - if CYP if CYP is active that means that we have many of potent vitamin d active in the blood but [HG>CNT] if this is the receptor that will catch ligands and this is the cells, this is the differentiation process occurring bone resorption cell, this is the one I previously mention the hymoatipoetic stem cell - it will then change [MG] into granulocyte monoctye colony stimulating factor. Ah monoblasts pro-monocyts monocytes and then become [MG] osteoclasts in the in the bone cells. The mesenchymal stell cell will change in to the immature pro-osteogenic or matur- mature osteo or immature pre osteoblast immature osteoblast and then osteocytes. We can see [HG>JST] that both cells monocyte and osteoclast and also mature osteoblast and osteocytes both have the expression of cyp27b1 and VDR. Therefore [HG>JST], vitamin D cannot [HG>DNY] only just act on bone rebsorption they also have some effect in bone formations. [Cough]. To study this we tried to make [⌄FOC:FUL] [HG<ENT] a models a models that tried to uh explain [⌄FOC:FUL] the process. This is the easily-uh the easy model. If we have the ligand the ligand will bi-bind with the receptor and we can get effects. If we delete the ligands er sorry if we delete the VDR we delete the receptor we only got the ligand. This study was first conducted by Lee in 1998 [HG<ACK] and Amling in 1999 [HG<ACK]. It says [HG<ACK] that without the VDR genes, the bone mineralisation process is decreasing, but [HG>CNT], if the sup- supplement them with calcium the

bone mineralisation is normalised, so it has almost [↑FOR:QNT] normal phenotypes. However [HG>CNT] research by Panda in 2004 [HG<ACK] when he compare- when he compared three mouse models, the one with VDR knockout, this one, and the CYP27b1 knockout and both elimination, this is what happen. When we delete the vitamin d receptor er sorry the vitamin D ligands by deleting the CYP27b1 the action of calcium is not [HG>DNY] really [↑FOR:INT] good compare to those who does not [HG>DNY] who doesn't [HG>DNY] have a deletion in these oh sorry. When we delete the ligands, the effect of bone phenotype is less better **[+APP:VAL]** than those who are deleted in just the VDR because throughout the process the skeletal and chondrocyte growth is defective**[-APP:VAL]**, so from the early on until the dev-develop become old, this process is defective and, without the vitamin D ligand the process, e-even [HG>CNT] if we provide just the calcium, it still defects. Therefore [HG>JST] the skeletal and chondrocyte defect chondrocyte growth is required both calcium and vitamin D action to maintain in a good in a good condition. But [HG>CNT] of course if we delete both even [HG>CNT] if we supplement them with calcium it doesn't [HG>DNY] have any. Anyway [cough] this process is trying to be uhm more emphasised [↘FOC:FUL] by g- uh by the model the model that we tried [↘FOC:FUL] to over express the genes.. so we tried [↘FOC:FUL] to put er VDR genes in osteo calcium promoter that why we call it overexpress vdr we in-increase the number of protein the number of VDR that exist in the cells. These studies were first conducted by Gardiner in 2000 [HG<ACK] and he-sh and she shows [HG>END] the net consequences of vdr elevation in mature osteoblasts is anabolic site specific it means that uh there are difference between cortical bones and trabecular bones and it shows [HG>END] that there is a possible local control of cortical bone. The study was also supported by Baldock in 2006 saying [HG<ACK] that the mature osteoblasts reduced bone resorption in low calcium diet by the increase by the changes in opg osteoprotegerin oh sorry yah oh shit osteo-opg sorry I forgot (laughs) and (laugh) actual opg and the round ligand dependent pathway. This shows [HG>END] that might be [HG<ENT] there is a difference between immature and mature osteoblastic lineage to uhh to make a formations or to build in the process of bone remodelling. ahem. All these raise to the question whether the vdr mediated activities in the bone formation cell really [HG>CNT] do exist. if it really [HG>CNT] do exist does really [HG>CNT] vd vitamin d is required if we have a adequate adequate calcium level. because this has also produced another another er controversy because there is also a a theorem called calcium paradox. calcium paradox is increase of hip hip fracture in develop country such as australia or higher [↑FOR:QNT] hip con er hip fracture than in those in developing country who knows to have a low calcium intake. so high [↑FOR:QNT] calcium intake and low calcium intake doesn't [HG>DNY] guarantee that a person will not [HG>DNY] have a fracture. So. An adequate calcium level is not is not [HG>DNY] just the main idea of the whole bone remodelling process. if so how the calcium vitamin d and vitamin d receptor interacts in bone remodelling and what is the mechanism. This is the one that we are trying [↘FOC:FUL] to identify by analysing by analysis of by means of mouse models that needed uh that will un-eh elucidate the mechanism underlying bone make- bone remodelling process.

In order to investigate the role of the dietary calcium in vitamin D receptor in vitamin D receptor mediated activates in bone formation cells this research is [MG] are aim [↘FOC:FUL] to answer these following questions. the one is the first one is uh vitamin d receptor or vdr activities in the bone cell dependant on calcium and or its ligand which is vitamin d and if so what is roles of dietary calciums in vitamin D receptor mediated bone-forming cells activities in the bone structure. In order to answer the questions this study has the following specific aims. the first one is [MG] to characterise mouse models that are able to explain the role of vitamin vitamin D receptor gene in bone-forming cells activities in to enhance bone structure. What's the model the model are [MG] three there are three models three mouse models that will I will be working on we will be working on the ost vdr. the one that have [MG] increase vdr activities in mature osteoblasts. Mature osteoblast is [MG] the cells that that responsible for mineralising bone. The vdr knockout means [MG] that we delete all the vdr in the bo- in the mice. and the wildtype as a control. And [cough] to describe for the mini receptor action in bone -forming cells and form bo bone-forming cell activities to enhance bone strength, we try [↘FOC:FUL] to identify age-related vita vitamin d receptor action on bone-forming cells activities which affect bone strength, and to explore whether [HG<ENT] vitamin d and or calcium is essential **[+APP:VAL]** in vitamin d receptor mediated bone-forming cell activities affecting bone strength. It is hypothesised [HG<ENT] that, the dietary calcium will modify wildtype OS-VDR and VDR-knockout mouse models, bone phenotypes, observed by direct or indirect activities of vitamin D receptors that

alters gene expression and protein production, in bone-forming cells to enhance **[+APP:VAL]** bone strength. These effects are age-dependent, and require both vitamin D and calcium as a regulator. Research will be conducted on the following steps. The first, we will identify the OS-VDR, the one we have has a CYP27, has a genetic background of C57Black6. the previous study by Baldock by Baldock and by Baldock and Gardiner in 2000 [HG<ACK] in FVB/N mice that's white mice and what we have is a black mice, that's why we try [﹀FOC:FUL] to characterise it first, and then supplement them with dietary calcium, a low and high [↑FOR:QNT] level, and, in the seven weeks old [↑FOR:QNT], we killed, and in 20 weeks old [↑FOR:QNT] we killed, and then compare between the two [↑FOR:QNT] age to see the age-dependent relationship between the age, the young age and the old age, and we examine the bone, the bone effects analysis by micro-CT to see the bone structure and architecture and we also study the bone histology to see the cell numbers and activity by means [^FOC:VLR] of histology, staining, immune-histochemistry and in analysis by qRTPCR. The systemics effect of bone of calcium diet will be assessed through blood samples analysis.This is how I will conduct it in a three years time [↑FOR:QNT] I hope **[+AFF:INC]**, and, -

I would like **[-AFF:SEC]** to thank **[-AFF:SEC]** my principle supervisor, ah Professor [redacted], and co-supervisor Dr [redacted] for the expert assistance and discussion.

Therefore I will end my session for boring **[-AFF:SAT]** and wracking, nerve-wracking **[-AFF:SEC]** with any questions? Please don't [HG>DNY] ask.

2.3 Text B2 Appraisal Analysis (written, introduction only)

Osteoporosis, a major **[+APP:VAL]** health problem **[+APP:VAL]**, is a bone condition characterised by age-related bone loss [-APP:VAL], decreased bone mass [-APP:VAL], enhanced bone fragility [-APP:VAL], and increased susceptibility to fractures [-APP:VAL] (ref) [HG<ACK]. In Indonesia, some 22.3% men [↑FOR:QNT] & 32% women [↑FOR:QNT] were reported [HG<ACK] to have osteoporosis in 2006 (ref). while in Australia 1 in 2 women [↑FOR:QNT] and 1 in 4 men age over 60[↑FOR:QNT] years old have been diagnosed with osteoporosis (ref) [HG<ACK]. Bone loss [-APP:VAL] in osteoporosis is undetected until fracture [-APP:VAL], occurred (ref) [HG<ACK]. Wrist, spine, and hip are the most [↑FOR:INT] common [↑FOR:ENH] region of osteoporotic fracture [-APP:VAL], which leads disability[-APP:VAL], increased dependency [-APP:VAL] and financial burden **[-APP:VAL]** (ref) [HG<ACK]. Therefore [HG>JST], osteoporosis preventions become imperative **[+APP:VAL]** paraphernalia to reduce health burden **[-APP:VAL]** of osteoporosis.
Dietary intervention is the most [↑FOR:INT] common [↑FOR:ENH] osteoporosis prevention (ref, ref, ref). Vitamin D (VD) is known as "bone vitamin" since beginning of the 20th century [↑FOR:QNT] and play a role in Rickets which begin to remerge in this 21st century [↑FOR:QNT] (ref) [HG<ACK]. VD supplementation in animal (ref) [HG<ACK] or human (ref, ref, ref, ref, ref) [HG<ACK]. studies had shown [HG>END] its benefits in osteoporosis and total mortality (ref) [HG<ACK]. However [HG>CNT], recent [↑FOR:QNT] investigations showed [HG>END] that VD supplementation were unrelated [HG>DNY] to bone mineral density (ref, ref) [HG<ACK], had minor effect on bone turnover markers (ref, ref) [HG<ACK]. and did not [HG>DNY] decrease the risk of osteoporotic fractures (ref, ref, ref, ref, ref). Some studies also suggest [HG<ENT] that VD is ineffective in children and adolescents (ref. ref. ref) or women under the age of 70 (ref) and have time efficacy on oral dosage (ref, ref). Further understanding of VD action in relation to bone strength physiological properties are needed [MG] to unravel the mystery of osteoporosis.
VD act through vitamin D receptor (VDR) (ref) [HG<ACK] which served as ligand-activated transcription factor after heterodimerisation with retinoid X receptor (RXR) (ref) [HG<ACK]. This complex will bind to vitamin D response elements (VDREs) in VD-responsive genes promoter to enhance or suppress gene transcription (ref) [HG<ACK]. VDR exists in almost all [↑FOR:QNT] [↑FOR:INT] cells and control a large [↑FOR:QNT] number of genes (approximately 3% of mouse and human genome) (ref) [HG<ACK] and revealed [HG>END] VD activities in proliferation and differentiation (ref) and regulator of musculoskeletal (ref) immune (ref, ref), endocrine and metabolism (ref, ref) cardiovascular system (ref, ref) and central nervous system (ref).
Increased evidence of VD deficiency and or insufficiency in recent years has taken VD and VDR to a new perspective (ref, ref, ref, ref, ref) [HG<ACK] because it were linked to health diseases[-

APP:VAL] (ref, ref, ref) [HG<ACK]. Therefore, [HG>JST] update on VD requirement level is needed to determine minimum VD level to maintain an optimal health function especially in bone (ref) [HG<ACK].

It has been established [MG] that a greater bone formation than bone resorption process is required to create a strong [+APP:VAL] bone. Osteoblasts (ref) [HG<ACK] and osteocytes regulate bone formation (ref) [HG<ACK] and calcium is used as bone building block [HG<ACK]. Hence, optimum calcium level is essential **[+APP:VAL]** for bone strength. Calcium supplementation has shown its advantage **[+APP:VAL]** in osteoporotic patients (ref, ref, ref, ref) [HG<ACK]. Calcium acts as cell function regulator through its intracellular cell signalling ability (ref). Skin and kidney through VD formation (ref) and parathyroid gland through parathyroid hormones (PTH) production maintain blood calcium level by means of bone remodelling regulation (ref) [HG<ACK]. Combination of calcium and VD supplementation in osteoporosis and bone metabolism studies has shown conflicting evidences [HG<ENT]. It was beneficial [+APP:VAL] (ref, ref, ref, ref) but [HG>CNT] requires higher [↑ FOR:QNT] dose of vitamin D to prevent fracture (ref, ref) [HG<ACK]. Nevertheless, some studies showed [HG>END] that the combination is useless [-APP:VAL] (ref, ref) and increased [↑ FOR:QNT] risk of cardiovascular events (ref, ref, ref) [HG<ACK] and implied that the combination was excessive. This notion was supported by studies in VDR knock out mice. Li et.al 1998 (ref) and Amling et.al 1999 (ref) showed [HG>END] that bone mineralisation and skeletal phenotype in VDR ablated mice were normalised with dietary regimen that maintained normal ion calcium homeostasis. Thus, VD is dispensable in bone mineralisation and strength. The discovery of bone cell producing VD to elicit autocrine and paracrine actions on their surrounding areas (ref, ref) [HG<ACK] has brought a new perspective on VD metabolism and VDR activities in bone cell. Bone cell express 25-(OH)D-1α-hydroxylase (CYP27B1) which metabolise less active 25(OH)D3 to biologically active 1,25(OH)2D3 (ref, ref) and may exert tissue-specific control on bone remodelling. Panda et al. 2004 (ref) [HG<ACK] supported the notion using 3 mouse models (VDR-ko-mice, CYP27B1-ko-mice and VDR and CYP27B1-ko-mice). The study demonstrated [HG<END] that normalisation of blood calcium level can normalise cartilage and skeletal mineralisation but [HG>CNT] cannot [HG>DNY] substitute the defective VD-VDR in skeletal homeostasis and chondrocyte growth. Hence, [HG<END] growth plate development requires coordinated calcium and VD actions while optimal osteoblastic bone formation and osteoclastic bone resorption requires both VD and VDR for normal bone remodelling coupling. However [HG>CNT], the mechanism by which calcium, VD and VDR interacts in bone remodelling coupling has not [HG>DNY] been fully understood [-APP:COM]. The use of genetically modified mice in endocrine research had been reviewed [HG<ACK] by Davey at al. 2006 (ref) A global VDR knock out mice may have revealed [HG>END] VDR activities on bone metabolism in relation to blood calcium level (ref) although [HG>CNT] it is difficult **[-APP:REA]** to ascertain whether [HG<ENT] the phenotypes observed is due to vdr-gene-products in bone cells or from other indirect actions of parathyroid gland or kidney. Therefore conclusions drawn from knock out mice models need to be [MG] carefully **[+APP:COM]** evaluated.
Overexpress mouse models produce [MG] nonphysiological level of gene and protein expression, therefore, they provide valuable **[+APP:VAL]** insights into normal gene function in vivo (ref). Study in overexpress VDR (OSVDR) mice model has suggested [HG<ENT] an existence of distinct and diverse vitamin D regulatory pathways in immature and mature cell of the osteoblastic lineage (ref). This mouse model has a full-length [+APP:COM] coding sequence (cDNA) cloned downstream of osteocalcin promoter which highly [↑ FOR:QNT] expressed in mature osteoblasts (ref) [HG<ACK] and useful **[+APP:VAL]** to demonstrate obvious bone process. However [HG>CNT], this mouse model have disadvantage **[-APP:VAL]** in tissue specificity and levels of transgene expression which requires characterisation in its non-target tissues (ref) [HG<ACK].

A comprehensive **[+APP:COM]** study to determine calcium role in VDR activities on bone cell will [MG] provide further [↑ FOR:QNT] insight [+APP:VAL] on bone physiology and remodelling. Thus, this study aimed [↘ FOC:FUL] to determine and compare the VDR activities in VDR null & VDR Over-express models with and without dietary calcium in time dependent physiological manner and study the indirect or compensation pathway that contributed to VDR activities in bone metabolism and physiology.

2.4 Text C speech Appraisal Analysis

Good morning everybody. Thank [+AFF:HAP] you for coming here today. I am [redacted], I come from microbiology. Today I would like [+AFF:INC] to present my research proposal. The topic is 'Staphylococcus aureus: stress response and its role in pathogenesis'. My supervisor is Doctor [redacted] and co-supervisor is Associate Professor [redacted].

First, I would like [+AFF:INC] to present the background of this bacterium. Staphylococcus aureus is [MG] ah one facultative anaerobic gram positive coccal bacterium, and it's [MG] uh colonised o- in the skin and the nasal cavity. Approximately 20% of human population are [MG] long-term carriers, and 60% are [MG] intermittent carriers. This also known as [MG] an 'opportunistic pathogen' and leading a full spectrum [↑FOR:QNT] of infection. As you can s- see [HG>JST] here that is some tissue infection, like [^ FOC:VLR] impetigo, boils, wound infections, or more serious diseases **[-APP:VAL]** such as [^ FOC:VLR] meningitis, endocarditis, ah osteomylitis, pneumonia and ah toxic shock syndrome. In recent year, is [MG] also known as a 'superbug'. A superbug, because it can [MG] develop to multi-antibiotic-resistant strains, that is hospital-acquired methicillin-resistant Staphyloccocus aureus, or HA-MRSA, or community-acquired MRSA, and even [HG>CNT] vancomycins-intermediate and vancomycin resistant strains. This becomes [MG] a worldwide problem, not [HG>DNY] only in developed countries, like [^ FOC:VLR] US - each year about 20,000 deaths due to MRSA infections - now it also has become [MG] a issue in developing countries, because of the overuse or wrong use of antibiotics. Importantly [+APP:VAL] now, it can switch [MG] to special lifestyles, such as biofilms and small colony variants; they are [MG] the important **[+APP:VAL]** cause of the relapse and recurring infections. What is small colony variants and biofilms? As you can see [HG>JST] here, there's a differences between the normal types and biofilms, and between the normal types and small colony variants. In the biofilms, biofilms is known for a long time [↑FOR:QNT], and it is characterised by [MG] the multilayers [↑FOR:QNT] of single cells or micro-colony encased in a matrix which is formed [MG] by extracellular polysaccharide matrix. This matrix is [MG] very [↑FOR:INT] rigid, and protects the cells from the destructive [-APP:VAL] factors such as nutrient starvation [-APP:VAL], pH or osmotic changes, or oxygen level. Um. The, another kind of evolutions in metabolic pathway that is small colony variants. Small colony variants are characterised as a very [↑FOR:INT] very [↑FOR:INT] small size colony, like pingpong, and they are colourless and non-haemolytic. And both of these forms are [MG] very **[↑FOR:INT]** challenging **[-APP:VAL**] for diagnosis because of these special **[-APP:VAL**] characteristic, and challenging **[-APP:VAL]** for treatment because of this is difficult **[-APP:REA]** to totally removed. Therefore it can be found in chronic and prosthetic device infections, such as cystic fibrosis, osteomyelitis, and intercostalitis, or sinusitis. Um they are ah very [↑FOR:INT] slowly in growth but [HG>CNT] still virulent. And, in recent years they are demonstrated [HG<END] as having higher [↑FOR:QNT] persistence and higher[↑FOR:QNT] antibiotic resistance, and because of this characteristic, very [↑FOR:INT] special **[+APP:VAL]** and so this requires [MG] new therapies. The overarching principal that helps staphylococcus aureus in overcoming the innate immune system and colonise, to colonise, to invade and to survive in the host tissue, that is [MG] the capacities of overcoming stress; the capacity of stress response. The innate immune system will produce [MG] the Reactive Oxygen Species and Reactive Nitrogen Species. And uh Reactive Oxygen Species includes the many uh agents, like [^ FOC:VLR] hyper, hyper, superoxide, hydrogen peroxide, or NQ-hydrogen peroxide, and nitrosative stress include nitric oxide; these are very [↑FOR:INT] toxic and kill the bacteria. And re-, the stresses will react [MG] together and react with another biomolecule such as lipid containing structure like [^ FOC:VLR] cell membrane, and initiate lipid peroxidation. The products of lipid peroxidation are [MG] reactive aldehydes. They are also known as [MG] a destructive agent to bacteria. And… in… in recent year, there is [MG] a many understanding about how staphylococcus aureus can overcome the oxidative stress and nitrosative stress. For example [^ FOC:VLR], staphyloxanthin, that is [MG] the pigment that neutralise the superoxide, and superoxide dis- dismutase they are [MG] the enzymes to scavenge the uh radicals, um and several oxidative stress resistant proteins, created, like [^ FOC:VLR] KatA catalyse, thiol peroxidase, alkyl hydroperoxidase, or thioredoxin reductase, uh n- like uh the neutralisations of these radicals. For the nitrosative stress, there's [MG] a protein that's Hmp, uh this is [MG] uh responsible for the uh defence against the nitric oxide. So. How about the lipid - uh how about the impact of oxidative

stress and nitrosative stress on the biofilm and SCV formation? Until now there's just [HG>CNT] one study involved in the impact of oxidative and nitrosative stress on biofilm formation, and this is uh result in the nitric oxide inhibit the biofilm formation. Therefore, little [↓FOR:QNT] is known [-APP:COM] about um biofilm SCV, especially clinical isolates, because in that study, they just [HG<CNT] uh study on one strain [-APP:COM]. And how about the reactive aldehydes? There's no [HG<DNY] understanding about how Staphylococcus aureas overcome this reactive aldehyde [-APP:COM]. And what is AKR superfamily? AKR superfamily can be found [MG] in eukaryotes and prokaryotes; until now there are 15 families with more than 140 members; several mammalian AKR are [MG] characterised and known about the functions, however [HG>CNT] in bacteria there's um, little [↓FOR:QNT] is known [-APP:COM] about the role of AKR. In the um mammalian cells, they are [MG] known, they um remove [MG] damaging compounds, toxins, and respond to oxidative stress. There are two pathogenies, that is E.coli and H.pylori, whose AKR are [MG] characterised, and uh known about the function. They are responsible to reduce several aldehydes, and diketone substrate being equalised, and reduce aromatic aldehydes in H. pylori. As I mentioned, that the AKR expressions in Staphylococcus aureus is unknown, and from a clinical analysis, we found [HG>JST] that the gene AKR is present in the staphylococcus aureus, and, we propose [HG<ENT] that this gene be, will be regulated by one special **[+APP:VAL]** regulator, belonging to the MERR family. So, the MERR family, that is [MG] the transcriptional activators, which is known response to the stress. There are [MG] several members of this family; originally, this is known to defence against the metal stimuli of the environment. Uh the mem- the members of this family are based on AR group on um based in the homologous N-terminal helix-turn-helix DNA binding domains, but [HG>CNT] dissimilar C-terminal sensing domain. About a mode of actions, so it acts [MG] as a weak repressor in the c- in absence of cognate stress, and a activator in present of cognate stress, and it regulates own synthesis. And you can see [HG>JST] here, when MerR, this is the archetypal **[+APP:VAL]** member of this family, and this is [MG] the mercuric ion-sensing regulator, so when MerR bind to the diassymetric between the promoter elements, they will bend the DNA, because the typical spaces between the elements is ah 17, but [HG>CNT] in this case, they have the spacer, a larger spacer, 19 space there, therefore [HG>JST] they will bend the DNA. So that the RNA-p, that is, the RNA polymerase, cannot [HG>DNY] contact with the minus element, so the transcriptions of the structural genes will be blocked. When there is the presence of the cognate stress, such as [^FOC:VLR] mercury, with - this is the mercury - so, the MerR will com- create [MG] a complex with the mercury and- leading to the conformational change in protein, and so that the RNA-p can contact [MG] with the promotor and activate [MG] the transcription. NmlR is belong to the MERR family, and ah involved in the genes defence oxidative and nitrosative stress. And it has [MG] a helix-turn-helix motif characteristic, but [HG>CNT] different in conserved cysteine residues. It can be found in a range of bacteria genomes, such as [^FOC:VLR] the Neisseria meningitidis, Neisseria ah gonorrhoeae, Haemophilus influenzae, and streptococcus pneumoniae. Ah some genes is regulated, some genes are regulated by NmlR, like [^FOC:VLR] adhC, estD, or copA, are related to the defence against oxidative and nitrosative stress. So, from the background, AKR and NmlR, we have ah two hypotheses. The first is [MG] that NmlR in Staphyloccoccus Aureus plays a role in the defence against aldehydic base stress. And ah it has a new arrangement and is ah two target that is AKR and HysA. So, HysA is [MG] one of the ah s- one of the ah spreading factor, help Staphylococcus Aureus in invade host by degrading the connective tissue. And the MERR-like operator promoter is [MG] upstream of this MRSA. And the second hypothesis here that's [MG] related to the biofilm and SCV formation, that is, clinical isolates may [HG<ENT] possess specialist pathways for stress response and this will determine their lifestyles.

So, we have three aim heres. First, we will characterise the AKR, NMRA and HysA system. After that we will determine the impact of stressors on the biofilm and SCV formation, and we will verify the molecular basis of the pathway. For the aim 1, we have ah some objective. First we will construct the AKR NMRA and HysA mutants by usings double cross-over, and examine the physiology of the mutants, and ah examines the regulator-promotor interactions by using beta-galactosidase report system, and examine expressions of AKR and HysA to compare the mutants between the mutants and the wild type by using enzyme assay. For the aim 2 and aim 3, so we will [MG] examine biofilm and ah SCV formation, ah and ah co-culturing to examine the physiology of the mutant, and construct the random mutants by using transposons mutagenetic, and determine the genes relevant to biofilm and SCV um formation under stressor by usings microarray DNA. So, the strain we will use include [MG] [^FOC:VLR] 8 genome sequenced of Staphylococcus Aureus, um and s- especially 63 clinical

isolates collected from the [redacted] Hospital, will be used [MG] for the biofilm and SCV formation part. [cough]. For stressors, ah we use the representative agent for aldehyde and for nitrosative stress and oxidative stress as I've described here. As well, physical condition like [^ FOC:VLR] pH, temperature and oxygens level. Ah this methods, there is the, this [MG] methods, we just [HG>CNT] recommend here, and, this required ah modification or changes when the project is in progress. So we use the double cross-over to knock out the genes and construct the mutants, and use these mutants for physio- physiology. Beta-galactosidase report system, ah that is, I use [MG] the, a, vector and after that cloning and co-transformations in the E.Coli, and after that use the LacZ to examine the regulator-promotor interaction. This depends [MG] on the LacZ activity, to, it will, this will conclude, that a MRSA will be a refresher, or an activator. The transposon mutagenisis is just [HG>CNT] used for construct uh uh random mutants, and to verify the molecular basis of biofilm and SCV formation we use [MG] a microarray DNA to determine that what the genes what genes is important [+APP:VAL] for bioflim and SCV formation under stressors.
Ah, in summary, so I just want [+AFF:INC] to ah pick [MG] some point some important [+APP:VAL] point here. That first, staphylococcus aureus nowdays very [↑FOR:INT] important [+APP:VAL] pathogen for humans, because it develop to aquired multi-antibiotic resistant strain . Develop to vari-various lifestyles, such as [^ FOC:VLR] biofilms and SCV. And it needs to survive and grow under stressors but [HG>CNT] very [↑FOR:INT] little [↓FOR:QNT] is known [-APP:COM] about ah the defence system due to stress. And biofilm and SCVs can possess s-specialised pathway for ah stress response. So for my project we will provide [MG] new understanding about the system pathogenic bacteria use to defend against stress, and may [HG<ENT] lead to the new [↑FOR:QNT] strategy for managements of diseases [+APP:VAL].

I would like **[+AFF:INC]** to repeat the special **[↑FOR:INT]** thanks **[+AFF:HAP]** to my supervisors, my lab members, [redacted] and [redacted] here, the staff from [redacted], and [redacted] class, Dr [redacted] and friends who helped me **[+JUD:SAN]** a lot **[↑FOR:INT]** in completing this research proposal. And thank **[+AFF:HAP]** you very **[↑FOR:INT]** much **[↑FOR:INT]** for attention. Questions, if you want **[+AFF:INC]** to clarify something, thank **[+AFF:HAP]** you very **[↑FOR:INT]** much **[↑FOR:INT].**

2.5 Text C2 Appraisal Analysis (written, introduction only)

Staphylococcus aureus is an important **[+APP:VAL]** opportunistic pathogen that can lead to a myriad [↑FOR:QNT] of diseases [-APP:VAL] in its transit through to various [↑FOR:QNT] sites in the body. It often [↑FOR:ENH] colonises the skin and the anterior nares of human host in particular [^ FOC:VLR] nasal cavity [1]. Approximately 20-30% [↑FOR:QNT] of human population are long-term carriers, and 60% [↑FOR:QNT] are intermittent carriers of S. aureus [2]. It can cause minor infections such as [^ FOC:VLR] superficial skin lesions, or deep abscesses such as [^ FOC:VLR] pneumonia, bronchitis, meningitis, osteomyelitis, endocarditis or septicemia [3]. The emergence of multiple [↑FOR:QNT] drug resistant S. aureus both inside and outside hospitals poses a great **[↑FOR:INT]** risk **[-APP:VAL]** for the current and future treatment. These strains are known as Methicillin-Resistant S. aureus (MRSA) [4] or more specifically HA-MRSA (Hospital Acquired MRSA) for nosocomial infections, or CA-MRSA (Community-Acquired MRSA) for community infections. Recently, the antibiotic resistance has become more **[↑FOR:INT]** serious **[-APP:VAL]** with VRSA strains (Vancomycin Resistant S. aureus) being discovered [5]. New [↑FOR:QNT] therapies are required to combat these strains [2]. S.aureus can switch from planktonic form to the other modes of existence including biofilms and 'Small Colony Variants' (SCVs). Both these forms of S.aureus are protected from physiologically inhospitable [-APP:VAL] conditions in the host. They have been demonstrated [HG<END] to be less [↓FOR:QNT] metabolically active and resist antibiotics much [↑FOR:INT] better **[+APP:VAL]** than the wild type counterparts [6-7]. Infections mediated by biofilm and SCV modes of growth are rarely [↓FOR:ENH] resolved by host defences and thereby cause several important **[+APP:VAL]** chronic diseases [-APP:VAL]. The common features [↑FOR:QNT] of both lifestyles are that they are difficult **[-APP:VAL]** to define and culture, leading to significant **[↑FOR:INT]** challenges **[-APP:VAL]** in targeting therapies against them. The overarching

[+APP:VAL] principle for infection and disease [-APP:VAL] caused by S. aureus including planktonic or switching lifestyles is its remarkable **[+APP:REA]** strategy to survive in the host. This involves its resistance to the host defences, in particular [^ FOC:VLR] the innate immune system [8]. This system responds to bacterial infection by producing an array [↑ FOR:QNT] of antimicrobial agents including [^ FOC:VLR] Reactive Oxygen Species (ROS) and Reactive Nitrogen Species (RNS). The reaction between these chemicals as well as with biomolecules in the host environment results in the formation of additional toxic [-APP:VAL] chemicals. These agents include toxic reactive aldehydes [-APP:VAL] generated from the oxidation of cell membranes, a process known as lipid peroxidation [9]. Therefore [HG>JST] S. aureus requires the ability to detoxify these damaging [-APP:VAL] chemicals of the host-pathogen environment as well as the ability to grow in this environment.
While it is known how S. aureus responds to NO stress [10-11] and oxidative stress [12], very [↑ FOR:INT] little [↓ FOR:QNT] is known about how it responds to reactive aldehydes [-APP:COM]. One [↑ FOR:QNT] class of enzyme that removes reactive aldehydes is the Aldo-Keto Reductases (AKR). It has been found in both eukaryotes and prokaryotes [13-15]. Physiologically they have been shown [HG>END] to function as part of metabolic processes, removing endogenously produced toxic compounds as well as detoxifying exogenous toxins. Although [HG>CNT] present in many microorganisms the function of bacterial AKR is largely unknown [-APP:COM]. There have been only [HG>CNT] two bacterial AKR described from Escherichia coli [16] and Helicobacter pylori [17]. NmlR is a novel MerR-like regulator identified [HG>END] by Kidd et al., 2005, involved in gene regulation in respond to ROS and RNS in Neisseria gonorrhoeae [18]. It also has been studied in a number of other pathogens as an as essential **[+APP:VAL]** component required for overcoming exogenous RNS stress within the host in order to survive. This protein has been characterised in Streptococcus pneumococcus (NmlRSP) [19] and Haemophilus influenzae (NmlRHI) [20]. In each of these bacteria, NmlR has been shown [HG>END] to regulate an alcohol dehydrogenase, AdhC, which is [MG] active in defence against formaldehyde and RNS. In both S. pneumoniae and H. influenzae, without [HG>CNT] any exogenous stress NmlR was required, suggesting [HG<ENT] that NmlR also functioned in the cellular metabolism [21].
The NmlR protein from S. aureus (NmlRSA) is [MG] different and appears [HG<ENT] to be regulating the expression of an AKR, not [HG>DNY] AdhC. The characterisation of AKR-NmlR system and the determination of its role in the stress response and in the physiology pathway of major S.aureus pathotypes and clinical isolates will form the basis **[+APP:VAL]** of this project.

2.6 Text D speech Appraisal Analysis

Okay thank **[+AFF:HAP]** you chairperson for the kind **[+APP:VAL]** [+JUD:SAN] introduction, getting my name right [+JUD:SAN] ha ha good **[+APP:VAL]** afternoon ladies and gentlemen ah before I proceed to my slides I would like **[+AFF:INC]** to acknowledge that my both supervisors are not [HG>DNY] here and personally would like **[+AFF:INC]** to thank **[+AFF:HAP]** Dr [redacted] for coming and going through this with me um so today my topic will be on 'prognostic factors for chemotherapy-induced febrile neutropenia in adult cancer patients' which is very [↑ FOR:INT] long[↑ FOR:QNT] I'm going to help you understand a long [↑ FOR:QNT] way. this is [MG] a systematic review. Okay the outline for my presentation will be [MG] ah I'll start off with a review with a background aims and methodology um actually [HG>CNT] this is the first part that I'm gonna do but [HG>CNT] subsequently the next few years [↑ FOR:QNT] my plan will be on doing a research following the gaps that I actually [^ FOC:VLR] find in my systematic review.

Background: cancer incidence um and trends I'm sure [HG>PRN] a lot of us know [HG>CON] that cancer incidence is actually [HG>CNT] rising [↑ FOR:QNT] in a rising trend [↑ FOR:QNT] and there are actually [HG>CNT] a lot more [↑ FOR:INT] [↑ FOR:QNT] people ageing and cancers are associated with older age group and chemotherapy is one of the treatments for most [↑ FOR:QNT] [↑ FOR:INT] cancers unlike [HG>DNY] as compared to surgery radiotherapy and many [↑ FOR:INT] other [↑ FOR:QNT] types of the modality. Um for every [↑ FOR:QNT] kind of treatment there's always [↑ FOR:QNT] side effects which, we all know [HG>CON] - hair loss, vomiting, mouth ulcer, diarrhoea,

and many others [↑FOR:QNT] okay um but [HG>CNT] I wanna highlight to you [HG>PRN] that neutropenia is actually [HG>CNT] one of the commonest [↑FOR:ENH] pathological adverse events that patient face and this is the topic that I'm going to concentrate on.
Okay. In the interest of my audience who are not [HG>DNY] medically trained I just want **[+AFF:INC]** to give you a quick [+APP:COM] overview of what neutropenia is some facts. The definition of neutropenia is [MG] a reduction [↓FOR:QNT] of circulating neutrophils in the body this is the picture of neutrophils and neutrophils is actually [HG>CNT] generated in a bone marrow it functions [MG] as first line defence against bacteria infections, and because of this because of the reduction patients are [MG] more susceptible to infections **[-APP:VAL]** and um neutropenia can be [MG] a condition that's acquired through giving drugs from chemotherapy or a person can be born with it. Now to move on some figures about neutropenia it affects [MG] about 70% [↑FOR:QNT] of cancer patients receiving chemotherapy and it does expose [MG] the patient and it is [MG] related sometimes [↓FOR:ENH] to life-threatening infections and I actually [HG>CNT] highlighted here [HG>PRN], for solid tumour like [^FOC:VLR] lung, breast would receive immunosuppressive chemotherapy, have about 10 to 15% [↑FOR:QNT] febrile neutropenia and for haematology patients are actually [HG>CNT] more **[↑FOR:QNT]** ill **[-APP:VAL]** the severe risk of life-threatening infections high are higher [↑FOR:QNT] and unfortunately [-APP:REA] because of this the mortality rate can range from 70- 7 to 20% [↑FOR:QNT]. I just want [+AFF:INC] to also highlight the fact that [HG>PRN] duration degree of neutropenia which is the longer [↑FOR:QNT] a person has neutropenia the more [↑FOR:INT] severe [↑FOR:QNT] neutropenia is it does make a difference in terms of reinfection, the types of infection, and the severity of infection. Okay I would also like [+AFF:INC] to bring you to understanding at this neutropenia sometimes [↓FOR:ENH] can be life-threatening [-APP:VAL] and can also sometimes [↓FOR:ENH] the very [↑FOR:INT] mild [↓FOR:QNT] so a patient will recover from it so the impact will be, for one, life-threatening infection can become very [↑FOR:INT] sick they will end up in intensive care unit and sometimes they recover but [HG>CNT] with some **[↓FOR:QNT**] damage **[-APP:VAL]** to their organs like [^FOC:VLR] kidney lung function the second consequence [-APP:VAL] is because this group patients are ongoing receiving chemotherapy then they'll have a dose reduced [↓FOR:QNT] or there will even [HG>CNT] delayed treatment all this will affect the survival outcomes if they continue to have a frequent episodes of neutropenia [-APP:VAL]. The third impact will be patient poor **[-APP:VAL]** quality of life; patients will actually [HG>CNT] experience a lot [↑FOR:QNT] of fatigue [-APP:VAL] and they couldn't [HG>DNY] go back to their own normal [-APP:VAL] function doing things on your own [-APP:VAL]. And sometimes it frustrates [-APP:REA] the patient and caregivers. For the next consequence will be the increase [↑FOR:QNT] in health care costs **[-APP:VAL]** for patients, because they get themselves to the hospital, they stay longer [↑FOR:QNT] that will increase [↑FOR:QNT] more [↑FOR:QNT] health care costs **[-APP:VAL]** to patients and also healthcare organisations and we all know [HG>CON] that this next problem **[-APP:VAL]** will be healthcare resources quite [↑FOR:INT] limited [↓FOR:QNT] even [HG>CNT] in Australia I also found out that it also does impact the bed utilisation because of I hear that from the news patients actually [HG>CNT] waiting a long time[↑FOR:QNT] before they can get to the hospital or into hospital beds. Some of the management of preventing measures has been ongoing[↑FOR:QNT] , like [^FOC:VLR] we know that this group of patients will require immediate [↑FOR:INT] medical attention in treatment and subsequently they will also continue [↑FOR:QNT] to be inpatient because they need intensive [↑FOR:QNT] monitoring for the deterioration **[-APP:VAL]** of the condition sometimes again doctors will decide [MG] whether the patient really [^FOC:VLR] need some ah ah adjustment to dose or frequency of treatment because of the febrile episode and then they may even [HG>CNT] consider [MG] changing of the cancer treatment. For us nurses, we also look into ways [↑FOR:QNT] of helping patients doing advising them on diet restrictions advising them on protective [+APP:VAL] isolation so staying home and not [HG>DNY] in a public areas and personal hygiene is actually [HG>CNT] really [↑FOR:INT] emphasised. Right. In this area a lot [↑FOR:QNT] of people actually [^FOC:VLR] looking into - especially physicians – are looking into ways [↑FOR:QNT] of improving patient outcomes uh patient care in terms of well we know that it does affect quality of life so we're trying [˅FOC:FUL] to move them to home based therapy if it is considered safe **[-APP:VAL]** we're looking to doctors look into trans-infection of microorganism where they can actually [HG>CNT] tailor [+APP:VAL] antibiotic treatment not [HG>DNY] to give them multiple [↑FOR:QNT] types of antibiotic treatments because that will cause drug resistance [-APP:VAL]. Um last but [HG>CNT] not [HG>DNY] least will be that attention is actually [HG>CNT] more [↑FOR:QNT] looking into risk assessment and prognostication

of outcomes. Which is, I highlighted because this is my area of interest and the topic of my presentation. Okay just wanted [+AFF:INC] to bring you to all a little bit [↓FOR:QNT] more [↑ FOR:INT] practical **[+APP:VAL]** in terms of having a some understanding of how the process is like for current ah at the clinical area we're patient receives chemotherapy they'll be assessed for risk of developing neutropenia. Okay like I said 70% [↑FOR:QNT] of them would develop neutropenia. So other people have looked into what other factors that will affect them or would put that into high **[↑ FOR:QNT]** risk of developing neutropenia **[-APP:VAL]** and more uh treatment can be given in terms of preventing it, 'kay, if they actually [HG>CNT] had neutropenia [-APP:VAL] the actually okay, but [HG>CNT] unfortunately **[-APP:REA**] if they actually [HG>CNT] have an infection [-APP:VAL] then they will have fever [-APP:VAL] that, which is called febrile neutropenia [-APP:VAL]. And um the progression will be ah patient will become sick **[-APP:VAL]** and they develop bacteraemia [-APP:VAL] or complications due to the infection [-APP:VAL] and they have to stay longer [↑ FOR:QNT] in hospital or sometimes not, not [HG>DNY] doing very [↑FOR:INT] well and not [HG>DNY] go home. I, again, I like [+AFF:INC] to differentiate my review I'm not [HG>DNY] looking at the risk assessment but [HG>CNT] I'm looking at the prognostic factors for patients with febrile neutropenia [-APP:VAL].

Okay um as early as late as as early as 1980s [↑FOR:QNT] um there have been a lot of studies looking at restratification of this group of patients because they know that a certain group of patients will actually [HG>CNT] have very high **[↑FOR:INT]** risk **[-APP:VAL]** and they will be very [↑ FOR:INT] ah, ah sick **[-APP:VAL]** after the episode and or then they will have also another group of low [↓FOR:QNT] risk but [HG>CNT] where they will be very **[↑FOR:INT]** well **[+APP:VAL]** after a few days when their counts recover [+APP:VAL] and they will go back home with just [HG>CNT] oral antibiotics. the reason why I actually [HG>CNT] want [+AFF:INC] to highlight this [HG>PRN] is because it is important **[+APP:VAL]** to know [HG>PRN] that if we are treating a patient with low risk [+APP:VAL] with very [↑FOR:INT] intensive [↑FOR:INT] antibiotics that will again incur a lot of [↑ FOR:QNT] costs [-APP:VAL] patient will have to stay longer [↑FOR:QNT] in hospital and not [HG>DNY] have quality like that home [+APP:VAL]; for patients who are actually [HG>CNT] very [↑ FOR:INT] sick [-APP:VAL] and a high [↑FOR:INT] risk [-APP:VAL] they will be, if you know the factors we'll be able to anticipate and prevent deterioration [-APP:VAL] if we have identified this group of patients. So the advantages [+APP:VAL] of restratification are that they will be able to tailor the right treatment for the right group of patients [+APP:VAL] and that will save a lot [↑FOR:QNT] of time **[+APP:VAL],** patient safety [+APP:VAL] won't [HG>DNY] be compromised **[-APP:VAL]** and again it will benefit [+APP:VAL] both patients and health care. Okay again like I said in 19 in the late 1980s to about the 2000 [↓FOR:QNT] there are actually [HG>CNT] a few different ways of looking at [↓FOR:ENH] risk stratification, for one will be the MASCC score which was validated in 2000 [^ FOC:VLR] there will be a list of high risk [-APP:VAL] and low risk [+APP:VAL] factors and there are other [↑FOR:QNT] studies which actually [^ FOC:VLR] went on to do a predictive model for life-threatening neutropenia. As you all can see [HG>CON]- I can understand it's a little bit [↓FOR:INT] small [↓FOR:QNT], – but [HG>CNT] the, there are different factors that have been listed in the tables and this caused a lot [↑FOR:QNT] of ah concern **[-APP:REA]** for some of the practising physicians because they do not [HG>DNY] know exactly how significant [+APP:VAL] these factors are how sensitive [+APP:VAL] they are, and how specific [+APP:VAL] are they in picking up the right groups of patients [-APP:COM] and just imagine if they're supposedly [HG>CNT] low risk [+APP:VAL or +JUD:EST] and they've been sent home if they develop ah further [↑FOR:QNT] medical condition or serious condition then they will be a little bit [↓FOR:INT] compromised [JUD:EST] in terms of patient safety so in terms of new studies more and more studies have been coming up with predicting individual risk using blood tests to predict infection and there were also prognostic evaluations on apparently stable condition for patients.

So because of this I am actually [HG>CNT] looking at [↓FOR:ENH] a way to to identify the most **[↑ FOR:INT]** significant **[+APP:VAL]** risk factors that will help me in to understanding what risk factors for each group of patients so that it will be more **[↑FOR:QNT]** reliable **[+APP:VAL]** in terms of stratification.

So my proposed systematic review will be [MG] one of prognostic factors predicting the clinical outcomes in this group of patients with this condition and I will further subanalyse between high risk

group and low risk group and I will also differentiate between oncology and haematology patients because if you remember [HG>CON] haematology patients are actually more [↑FOR:QNT] sick and their risk of life-threatening **[-APP:VAL]** infections are actually [HG>CNT] much [↑FOR:INT] higher [↑FOR:QNT]. Okay this is actually [^FOC:VLR] template that [redacted] actually sort of [ˇFOC:VLR] like showed you I'm just [HG>CNT] going to give you a short [↓FOR:QNT] overview the types of participants will be a adult patients who are actually [^FOC:VLR] receiving chemotherapy and the general interest would be the prognostic factors, whether there are modifiable or non-modifiable will be included. The type of outcomes I'll be looking at [↓FOR:ENH] will be prognostic factors that report odds ratios of relative risk and see the significance of it and the type of studies will be the usual experimental studies… retrospective and prospective **[+APP:COM]**.

[Redacted] I understand [HG>PRN] that I'm supposed to proceed to tell you further [↑FOR:QNT] about data analysis and statistics and critical appraisal but [HG>CNT] because my protocol has not [HG>DNY] been approved yet I will not [HG>DNY] proceed further [↑FOR:QNT] until things are more set okay. So I hope **[+AFF:INC**] you understand.

So to summarise the significance **[+APP:VAL]** of this review will be that chemotherapy -induced febrile neutropenia [-APP:VAL] can lead to life-threatening **[-APP:VAL]** infection and this is the real [^FOC:VLR] clinical factor that we face every [↑FOR:QNT] day in hospital and because of this I believe that significant **[+APP:VAL]** prognostic factors along with the development of more [↑FOR:INT] accurate **[+APP:VAL]** and reliable **[+APP:VAL]** prediction tools which will eventually help guide clinical decision-making [+APP:VAL] making patient management more **[↑FOR:INT]** effective **[+APP:VAL]** and safe **[+APP:VAL].**

So, I thank **[+AFF:HAP]** you and I will appreciate **[+AFF:INC]** any questions

2.7 Text E speech Appraisal Analysis

Good **[+APP:VAL]** morning everybody. My name is [redacted]. And my supervisors are Dr [redacted] and my secondary supervisor is Dr [redacted]. I would like **[+AFF:INC]** to warmly welcome my supervisor for her presence here which is really **[↑FOR:INT]** preferred **[+AFF:INC]** and I really **[↑FOR:INT]** admire **[+AFF:INC]**
[+JUD:EST] that and I'd also like **[+AFF:INC]** to welcome one and all together for your presence. Looking at my research topic, the topic of my study is comorbidity mental health alcohol and drugs service needs for the Aboriginal people 12 years and over who live in [redacted] regions in [redacted].

When a person is having one mental health problem **[-APP:VAL]** apparently [HG>ENT] he becomes vulnerable **[-JUD:EST]** to the other added on problems **[-APP:VAL]**. And look in the current scenario in Australia there are different mental health services, drug and alcohol centres ah which are there but [HG>CNT] it has been specialised towards the problems but [HG>CNT] the main **[+APP:VAL]** point is that one individual is having several problems **[-APP:VAL]** so he has to run around to different healthcare services to get this problem **[-APP:VAL]**. so this is our study which we going to analyse or assess the needs comorbidity needs of the Aboriginal community to stop the runaround [-APP:VAL] getting into different services, rather [HG>CNT] we'll bring that those services under one umbrella [+APP:VAL] so that their access of finding these services will be **simpler** [+APP:VAL].

Why [HG<ENT] did we select Aboriginal community in Australia? Among the total population, only [HG>CNT] 2.4 percentage of the total population ah come under Aboriginal community group. But [HG>CNT] looking at the mental health issues [-APP:VAL] nearly 4 times their mental health problems **[+APP:VAL]** are higher compared to the ah non-aboriginal counterparts in Australia so the significance of mental health is tremendously [↑FOR:INT] high [↑FOR:QNT] when compared to their Australian counterparts Aboriginal people are not [HG>DNY] only [HG>CNT] accessing mental health services at the level that is not [HG>DNY] commensurate with their needs [-APP:VAL]. And. Though [HG>CNT] the services are there, looking at the proportion of people who are visiting the services it's drastically [↑FOR:INT] less [↓FOR:QNT]. So here we have got [HG>JST] two things

where the effect of mental illness **[-APP:VAL]** is very [↑FOR:INT] highly [↑FOR:INT] related to alcohol drug and comorbidity needs but [HG>CNT] the access to the healthcare services is absolutely [↑FOR:INT] low [↓FOR:QNT] so we're just [^FOC:VLR] going to find out what is the reason for all that.

If we want [+AFF:INC] to know about the present condition it's worthwhile **[+APP:VAL]** looking at [↓FOR:ENH] the past. In the past during the 1988 [↓ FOR:QNT] most of the country [↑FOR:QNT] ah had colonisation and Australia is one among that [↑FOR:QNT]. because of colonisation the it has two impacts one was positive **[+APP:VAL]** where the whole conti-nation was developed in an international arena [+APP:VAL] at the same time [HG>CNT] it also affected people who were living in the land of Australia. Acquisition of land happened replacement of traditional food denial of access to basic **[+APP:VAL]** needs [-APP:VAL] forced removal of children from the aboriginal families [-APP:VAL] all these things right from the past has got an influencing effect on the health of the Aboriginal community. You've seen me using the term 'comorbidity' – does it really [^FOC:VLR] matter? when the problem **[+APP:VAL]** arise the per the person will come with one problem **[-APP:VAL]** which is really [↑FOR:INT] ah out-blowing among all but [HG>CNT] rather when we look at the overall picture with an eagle eye [↑FOR:INT] there are like an iceberg [↑FOR:INT] there are different other [↑FOR:QNT] different problems like [^FOC:VLR] ah alcohol, drug-induced addictions [-APP:VAL] and there are so many [↑FOR:INT] other [↑FOR:QNT] subproblems **[-APP:VAL]** which are co-coexisting along with this one which is hindered [-APP:VAL] so though [HG>CNT] this person is treated to his main **[+APP:VAL]** presenting problem **[-APP:VAL]** there are the subproblems **[-APP:VAL]** which is not [HG>DNY] which is overseen and that's because of reason that he either runs into the different health care service, or just finds and sits just [HG>CNT] leaves every care towards anonymity [-JUD:EST] and doesn't [HG>DNY] get the help so it happens either you are over using [-APP:VAL] [-JUD:EST] health service or not [HG>DNY] at all [↑FOR:INT] using the health service at all [↑FOR:INT]. So we think [HG<ENT] Aboriginal consumer centred care is in need of the ah because [HG>JST] comorbidity [-APP:VAL] exists comorbidity exists among 70 – sorry - nearly [^FOC:VLR] 70% [↑FOR:INT] of the mental health persons have comorbidity problems **[-APP:VAL]** and comorbidity problems **[-APP:VAL]** are multifaceted it is not [HG>DNY] one [↑FOR:INT] problem **[-APP:VAL]** they're going to have different problem **[-APP:VAL]** the most [↑FOR:INT] possibility to have different problem **[-APP:VAL]** like [^FOC:VLR] alcohol problem **[-APP:VAL]** gambling [-APP:VAL] increase suicide rates [-APP:VAL] getting into the cell [-APP:VAL] like [^FOC:VLR] incarceration [-APP:VAL] anxiety [-APP:VAL] delinquency [-APP:VAL] personality problems **[-APP:VAL]** and self-harm [-APP:VAL] and so on and so forth [↑FOR:INT] so where are they getting treatment and how are they getting the care [+APP:VAL]? So with all these comorbidities [-APP:VAL] what is the problem **[-APP:VAL],** meaning what are the consequences [-APP:VAL] of all these comorbidities [-APP:VAL]? The Australian Bureau of Statistics has revealed [HG>END] that nearly 33% of the male [↑FOR:QNT] and 15 percentage of the female [↑FOR:QNT] Aboriginal people's mortality [-APP:VAL] is because of the comorbidity [-APP:VAL] and because of intentional or not [HG>DNY] unintentional self-harm [-APP:VAL] so this so much [↑FOR:INT] of life which is just [↑FOR:INT] going ah abandoned [-JUD:SAN] because of this comorbidity [-APP:VAL]. It can also affect the children because children are s- ah everybody [↑FOR:QNT] most of them [↓FOR:QNT] have kids at home and most of the people [↑FOR:QNT] in the Aboriginal community when they have mental problems **[-APP:VAL]** these kids who are growing up in such conditions would think [HG<ACK] yeah having a family with mental health problems **[+APP:VAL]** having a family with excess alcohol [-APP:VAL] is normal [-APP:REA] to them [-JUD:EST] and we don't [HG>DNY] want [-AFF:INC] to lose our kids to have another dispaired **[-APP:VAL]** sort of family environment [-APP:VAL] it is important **[+APP:VAL]** that we give them a very [↑FOR:INT] normal [+APP:VAL] or at least optimal or near-normal kind of family environment [+APP:VAL].

So back to the research question we're going to assess what are the comorbidity mental health service needs for the Aboriginal community the aims of the study is First, to identify the mental health comorbidity service needs to ascertain the services and treatment strategies for the individual or the family to determine the difficulties **[-APP:VAL]** and challenges **[-APP:VAL]** they face and to collaboratively [+APP:VAL] work along with a community members, Aboriginal community members, to identify the strategies very [↑FOR:INT] effective **[+APP:VAL]** for effective **[+APP:VAL**] utilisation so it's not [HG>DNY] going to be a one man show I'm [HG>CNT] just going to work along with the

community along with the Aboriginal community members find out put ourselves in their shoes find out okay what are the impending needs [-APP:VAL] that has to be faced.
To know about the better **[+APP:VAL]** knowledge it's always **[↑ FOR:INT]** better **[+APP:VAL]** to look at the previous research studies or the review of literature for a good **[↑ FOR:INT]** clarity **[+APP:COM]** the review of the literature is divided into 5. 1 is Aboriginal people and mental problems **[-APP:VAL]**. Aboriginal people on alcohol and drug problems **[-APP:VAL]** comorbidity and other coexisting mental problems **[-APP:VAL]** challenges **[-APP:VAL]** faced by that Aboriginal community with comorbidity [-APP:VAL] and the provision of comorbidity services. In introduction of this generally speaking about the mental health aspects the Aboriginal people have a different belief about the mental health aspect when compared to the other non-Aboriginal Australian population Aboriginal people don't [HG>DNY] take off mental health as a separate aspect away from their five aspects They think [HG<ACK] that mental health is interlinked or collab'ed with the family, culture, society, spirituality, and land. And this is very **[↑ FOR:INT**] important **[+APP:VAL]** that when we work along with them that we have a very **[↑ FOR:INT]** good clear **[+APP:COM]** idea about their beliefs, cultural aspects, and so on and so forth. Aboriginal people and mental health problems **[-APP:VAL].** Even [HG>CNT] today [↑FOR:QNT], the young people are so much so [↑FOR:INT] disturbed **[-JUD:EST] [-APP:VAL]** with their mental health arised through the family. When the parents are affected with a mental health problem [-APP:VAL], the next person to take care or which is who is in charge is the young person who is in the family. And it's less [↓ FOR:QNT] likely that because of that over-burden **[↑ FOR:INT] [-APP:VAL]** in the family they are less [↓ FOR:QNT] likely to access the mental health service. And in the teenager, in the youth group usually [↑FOR:ENH] the peer influence much [↑FOR:INT], but [HG>CNT] in Aboriginal people, research says that more than the peer relationship the family burdens **[-APP:VAL]** influencing them much [↑FOR:INT]. So it's important [+APP:VAL] to identity the individuals and also the family and the community who else is involved in that. And even [HG>CNT] today they seek traditional healers. So it is important [+APP:VAL] that we have to give importance and value [+APP:VAL] to the traditional health system and through them collaboratively we can bring them into the normal usual [+APP:VAL] way of health service. Aboriginal people and alcohol and drug problems **[-APP:VAL]** it is found [HG>END] that alcohol consumption is the greatest **[↑ FOR:INT]** health problems **[-APP:VAL]** faced by the Aboriginal people and a major **[+APP:VAL]** contributing factor for a high **[↑ FOR:QNT]** risk of death **[-APP:VAL]**. Alcohol consumption which is [MG] commonly [↑FOR:ENH] seen collab'ed with depression [-APP:VAL] but [HG>CNT] there was an interesting **[+APP:REA]** study done by Matthew which said [HG<ACK] that the people who are consuming alcohol they drink to decrease the level of depression [-APP:VAL] that to their surprise **[+APP:REA]** it was found [HG>END] that those people whoever has had consuming alcohol they had increased rates of depression [-APP:VAL] and it was very [↑FOR:INT] hard for them to be rehabilitated [-APP:VAL] and the prognosis was poor [-APP:VAL]. Which was an interesting [+APP:REA] study. Comorbidity [-APP:VAL] and the coexisting mental health disorder [-APP:VAL]. Mental ill health [-APP:VAL] is potentially [↓ FOR:INT] damaging [-APP:VAL] it's not [HG>DNY] just the psychology [HG>CNT] it also affects the physical economic and the social environment. Other problems **[-APP:VAL]** like [^ FOC:VLR] depression [-APP:VAL], suicide [-APP:VAL] violence [-APP:VAL] and increased number [↑FOR:QNT] of foster care [-APP:VAL] and incarceration [-APP:VAL] are the other added [↑FOR:QNT] problems **[-APP:VAL]** they're faced with. What are the challenges **[-APP:VAL]** of Aboriginal comorbidity till now? if there's confidentiality still there is [MG] a big [↑FOR:INT] question that says do they had confidence **[-AFF:SEC**] in the current health care system. For some it says yes [+AFF:SEC] and for others they're still [↑ FOR:ENH] not [HG>DNY] confident **[-AFF:SEC]** and they always suspect [-AFF:SEC] that my confidentiality demographic details will that be maintained in confidence? Still [HG>CNT] that's a question to be answered. Under longevity in the current scenario there is plenty [↑FOR:INT] [↑ FOR:QNT] time or they have to wait for and least for most of them [↑FOR:QNT] a year to get into the service and by the time that they get into the service they don't [HG>DNY] want [-AFF:INC] it or they just [HG>CNT] they don't [HG>DNY] want [-AFF:INC] to give the time but [HG>CNT] studies have proved when is long waiting and the time is very [↑FOR:INT] less they're able to keep up the time [+JUD:EST] so it's important [+APP:VAL] that we really [^ FOC:VLR] rectify this challenge **[-APP:VAL]**. Consumer and carer perception. Whoever is delivering the care, they feel [MG] that the person should have some [˅ FOC:VLR] knowledge about the Aboriginal community and their culture. When they have that they really **[^ FOC:VLR]** develop their trust **[+AFF:SEC**] and they get along well [+JUD:EST] and really [^ FOC:VLR] get this help. And prevention campaign prevention

is always [↑FOR:INT] better **[+APP:VAL]** than cure so they really [↑FOR:INT] encourage when certain aspects are found in early it could be treated and we could [HG<ENT] have a real **[↑ FOR:INT]** good wellbeing **[+APP:VAL]** . Negative experience **[-APP:REA]** like our human brain has got capacity to identify even [HG>CNT] a little [↓FOR:QNT] pinch [↓FOR:INT] of disparity or sort of racism **[-JUD:SAN]** so this is still [HG>CNT] existing which gives a negative experience **[-APP:REA]** to them and it is also is stopping them in getting to the health care service [-APP:VAL]. An eclectic mix of hurdles [-APP:VAL] there are a lot of problems **[-APP:VAL]** they have kids and lots [↑ FOR:INT] [↑FOR:QNT] of kids and there's broken [-APP:VAL] family they have to travel from their own home maybe from [redacted] to [redacted] so there's lot and lots **[↑ FOR:QNT] [↑ FOR:INT]** of problems **[-APP:VAL]** that they're faced with and comorbidities [-APP:VAL] also one how about it we're going to reach to this comorbidity [-APP:VAL] with all [↑FOR:INT] these hurdles. And provision of comorbidity services. There are now [↑FOR:QNT] being lots [↑FOR:QNT] of research is being done with comorbidity service but [HG>CNT] still there are so [↑FOR:INT] many [↑FOR:QNT] other issues like [^ FOC:VLR] mental health first aid is also there where these people where they also have consumed increased alcohol [-APP:VAL] they're taking and they have detoxify [+APP:VAL] they're taken in into a detention centre and when they are fine by the morning they get treatment or at least get health education [+APP:VAL] and then get back to the home rather than being imprisoned. Aboriginal youth and mental health. This also proves that when we include Aboriginal people from their community into the health care system there's a better **[+APP:VAL]** promising **[+APP:VAL]** results of it. And sustained a lot [↑FOR:QNT] of care [+APP:VAL] sustained model of care [+APP:VAL]. Certain health care institutions mainly the finances are a big **[↑ FOR:QNT]** problem **[-APP:VAL].** When the finance is over then the health care service which was rendered to the community stops so that also has to be [HG>PRN] rectified [+APP:VAL]. And Shared care network. This is got a proven effect in Canada in Canadian studies been taken is, Canada US and New Zealand all these nations also have similar [^ FOC:VLR] sort of Aboriginal community people and they also have been colonised. This is a study done by in Canada where the rural mental health team collab'ed with the first nations who were the Aboriginal people in Canada and the visiting traditional healers of a community health practitioners in the Aboriginal community and the visiting psychiatrist and the primary health care. When all these work together there was a promising **[+APP:VAL]** effect in the study and at the same time it had a other effects like [^ FOC:VLR] re-including people into the system is this was a big **[↑ FOR:INT]** problem **[-APP:VAL]** and also to maintain them meaning there are so many [↑FOR:QNT] healthcare services mind this service couldn't [HG>DNY] find out couldn't [HG>DNY] find all of these alcohol and drug service which was rendered so those were the little **[↓ FOR:INT]** pitfalls **[-APP:VAL]** in this study.

So my study is going to be based on the critical social theory. It's very [↑FOR:INT] important [+APP:VAL], before getting to the methodology, it's very **[↑ FOR:INT]** important **[+APP:VAL]** and imperative **[+APP:VAL]** that we should [HG>PRN] know about the knowledge base. Critical theory puts criticism at the centre of knowledge [+APP:COM] it's not [HG>DNY] one man just working and observing it is self-reflection working along as a collaborative [+APP:VAL] approach partner research approach with a team members at Aboriginal community elders and the persons involved from the family and their extended family and collaboratively [+APP:VAL] working along. it's not [HG>DNY] on the people but [HG>CNT] it is for the people and with the people. The methodology is going to be based on a particular group theory which is going to be participatory action research. Where the plan is we've got an advisory committee with my supervisors and the other eight other members in the big project [↑FOR:QNT] called the [redacted] team which I'll tell about it the end of the… session and we'll all [↑FOR:QNT] plan together with the Aboriginal community elder she would tell us like [^ FOC:VLR] how often do you have a focus group in a focus group members involved and things like that just [˅ FOC:VLR] planning stage and then action and then we'll plan how often to meet at about what resting for making questions will ask open-ended or or what are the different aspects we will do about. and listening this is the main **[↑ FOR:INT]** important **[+APP:VAL**] things like [^ FOC:VLR] listening when there is a need how are you getting into the system? All those things will be really [↑FOR:INT] clearly [+APP:COM] identified and the committee members will really [^ FOC:VLR] listen and their points will be taken into consideration [+APP:COM]. And reflection. Finally we'll put this problem **[-APP:VAL]** in the centre [+APP:COM] and let's reflect on it along with a big [↑FOR:QNT] team. So this is [MG] going to be my methodology. Study population is going to be in [redacted] because [HG>JST] [redacted] is one of the areas is the second misfortune **[-JUD:EST]**

area in [redacted] in the whole of Australia [↑ FOR:QNT] and we have got nearly [^ FOC:VLR] 6000 population [↑ FOR:QNT] of Aboriginal people live here. And the tool will be open-ended structure question and the data analysis as my study is going to be qualitative it's going to be Nvivo. Ethical considerations will be done with two organisations and it's so [↑ FOR:INT] important [+APP:VAL] that any research should [HG>PRN] adapt to the knowledge [+APP:VAL] so my research will adapt to big know – [redacted] – they're called the [redacted] team it's called [redacted] is the name to improve [+APP:VAL] the comorbidity care of mental health alcohol and other drugs services in the [redacted] health service. So when I finish my study I submit to this [redacted] team and we'll work together from then on.

So with this I would like **[+AFF:INC]** to thank **[+AFF:HAP]** [redacted] although [HG>CNT] she is not [HG>DNY] here and [redacted] and Dr [redacted] for their presence and all my team members over here. Thank **[+AFF:HAP]** you.

Appendix 3

Table 1. Instances of inscribed Attitude

stage	Text A	Text B	Text C	Text D	Text E
Set-Up	thank,	thankyou forgot	thankyou	long thank, like, thank kind, getting my name right, help	like, prefer, like, admire
Research warrant	important, interesting, toll, famous, gold standard, important, successful, success, better, better, lesser risk, better, benefit, benefit, fail, fail, worse, worse, wouldn't be of benefit, better, decline, complain, suffering	the osteoporosis demon, problems, important, costly, important, deficiency, sufficency, important, easy, not good, less better, good,	serious, problem, importantly, important, challenging, special, challenging, destructive, special, damaging, special, wrong use	adverse, expose, risk, unfortunately, life-threatening, frustrates, life-threatening, normal, costs, costs, problem, deterioration, helping, safe, risk, risk, risk, important, ill, costs, quality, susceptible, compromised, advantages, right, right, (not) compromised, high risk, sick, low risk, life-threatening, serious, significant, reliable fatigue, concern,	problems, out-blowing, runaround, simpler, problems, significance, worthwhile, positive, problem, problem, problems, problem, hindered, problem, problem, problems, problem, problem, problems, problems, effective, better, better, clarity, important, problems, problem, good, clear, problem, important, important, important, importance, value, problems, eclectic, burdens, poor, interesting, , problems, interesting, damaging, problems, important, normal, optimal, near-normal, better, hurdles, promising, promising, problem, pitfalls, surprise, confidence, not confident, suspect, don't want, negative experience, netagtive experience, bad, hard for them to be rehabilitated, able, broken family
Procedure	important, poor, good, help	enhance, enhance	important, important, important	life-threatening, significance	important, important, clearly, important misfortune
Conclusion	n/a	n/a	important, important	significance, significant, , effective, safe help	n/a
Terminate	like, thank,	boring, nerve-wracking, like, thank, don't ask expert	like want thank thank thank help	thank, appreciate	thank, thank
Dominant type	Appreciation	Appreciation	Appreciation	Appreciation	Appreciation

LIBRARY NOTE:

The table on pages 246-250 has been removed to comply with copyright.

Table 3. Combined Theme in Text A

Theme		Rheme
Multi	**Topical**	
	Chronic rhinosinusitis	is an important disease
	that	affects around 12.5% of the population.
	Patients	usually complain of headaches in the cheek area or in the head, facial pain ah and rhinorrhoea,
	[rhinorrheah is]	postnasal drip
		more than three months.
	An interesting part of the disease	is that it exerts a higher toll on the quality of the life of the patient than do, disease, than other *famous* diseases – like congestive heart failure, angina, and back pain – in the areas of bodily pain and social function.
	The treatment of chronic rhinosinusitis	is done through medical management.
However	a great deal number of patients	pass on to require surgical management.
And	since the invention of the endoscope, in the 1980s,	functional endoscopic sinus surgery has risen to be the gold standard in the surgical management of chronic rhinosinusitis.
	The concept of functional surgery	is that it clears disease at the ostiomeatal complex.
And	I	will show you here,
	this	is a diagram of the sinuses;
	this	is the ostiomeatal complex area,
	where-, which	is the most important ah area of disease.
So	the concept or the hypothesis of this obstructive theory	is that an obstruction that occurs in the ostiomeatal complex area, leads to stasis of the secretions from the sinuses and ah in-, intrasinus infection and mucosal ah thickening,
and	the concept of the surgery.	is that by relieving obstruction, disease can be cleared, from the sinuses
And	this concept	was hugely successful.
	Success rates for functional surgery	is about 90% of primary cases.
But	it	falls to 70% for patients who are doing it for a second time.
And	there	are a certain group of patients,
	who	appear to be resistant to any type of surgical management,
and	[who]	Require multiple and multiple surgeries.
And	these patients	we call them as suffer from refractory chronic rhinosinusitis.
	That	is, no matter how number of surgeries they go through they are resistant
and	[they]	require further revisions,
and	[they]	have persistent symptoms.

Appendix 4

Medical School handbook excerpt

Research Seminar

Students are required to present a Research Seminar as part of the CCSP requirement. This will occur 4-5 months into candidature as part of the School of Medical Sciences Seminar Series. The seminar will be required to be in a Powerpoint (or similar) format and should be of 20 mins duration with 10 min available for questions. The background to the research topic, hypothesis and aims, methodology and any preliminary results should be included. Please check the seminar program for available timeslots for HDR presentations and discuss your seminar timing with your supervisors. Then contact your discipline coordinator to facilitate scheduling of your seminar.

THE UNIVERSITY OF ADELAIDE HUMAN RESEARCH ETHICS COMMITTEE

Document for people who are participants in a research project

CONTACTS FOR INFORMATION ON PROJECT AND INDEPENDENT COMPLAINTS PROCEDURE

The Human Research Ethics Committee is obliged to monitor approved research projects. In conjunction with other forms of monitoring it is necessary to provide an independent and confidential reporting mechanism to assure quality assurance of the institutional ethics committee system. This is done by providing research participants with an additional avenue for raising concerns regarding the conduct of any research in which they are involved.
The following study has been reviewed and approved by the University of Adelaide Human Research Ethics Committee:

Project title: *L2 Research Students' Spoken Academic English*

1. If you have questions or problems associated with the practical aspects of your participation in the project, or wish to raise a concern or complaint about the project, then you should consult the project co-ordinator:

   Name: Dr Peter Mickan
   Email: peter.mickan@adelaide.edu.au
   Telephone: 8303 3405

2. If you wish to discuss with an independent person matters related to
   - making a complaint, or
   - raising concerns on the conduct of the project, or
   - the University policy on research involving human participants, or
   - your rights as a participant

   contact the Human Research Ethics Committee's Secretary on phone (08) 8303 6028.

Information Sheet: L2 Research Students' Spoken Academic English

Information for Student Participants

Hello!
My name is Jessica Scott, and I am a PhD student of Linguistics conducting research into the spoken Academic English of International students at Adelaide University. Currently there is not enough data on the Academic English of research students, which I believe is an extremely important area. Because the IBP-R focuses on Academic English, I would very much like to involve you, and your IBP-R colleagues, in my research. Michelle and Richard have graciously allowed me to observe and participate in your classes, so you will see me around the place!
As you are probably aware, in your IBP-R program, you will do a presentation in class, and then a presentation in your discipline; I would like to take audio and video recordings of these presentations. I will then be able to look at how you speak academically about your field, and about doing research.

Project title: *L2 Research Students' Spoken Academic English*
Project duration: 1 semester (semester 2, 2011), with possible follow up contact afterwards

What I will ask of you:
Once you have agreed to participate, I will arrange a time for an interview, which will last about an hour. At the end of the IBP-R we will meet again for a second interview. I will video record your IBP-R and disciplinary presentations, and perhaps some group interactions if appropriate. I would also like a copy of your Research Proposal.

What you should know:
Participation in this project is voluntary, and at any point you can withdraw. You are not being assessed, and your contribution will not affect your academic results.. The data collected will be used in my dissertation, and may also be published in academic journals or presented to conferences during my studies or afterwards; I will always conceal your identity in any publications, and your names will not be used. The data may be used to help future students.

Contact details:
email: jessica.scott@adelaide.edu.au mob: 0402366940
If you have any questions, issues, comments or anything to discuss with me, please do not hesitate to contact me.

Also, I am available for informal conversation over coffee or a biscuit, if you would like to use English a bit more – we can chat about academia and research, or about things which are interesting.

Thank you very much for your time!

Jess Scott

Consent form

THE UNIVERSITY OF ADELAIDE HUMAN RESEARCH ETHICS COMMITTEE

CONSENT FORM
FOR PEOPLE WHO ARE PARTICIPANTS IN A RESEARCH PROJECT

1. I, _____ *(please print name)*

   consent to take part in the research project entitled: Students' Spoken Academic English

2. I acknowledge that I have read the attached Information Sheet entitled: Students' Spoken Academic English

3. I have had the project, so far as it affects me, fully explained to my satisfaction by the research worker. My consent is given freely.

4. Although I understand that the purpose of this research project is to improve knowledge and understanding of academic speaking, it has also been explained that my involvement may not be of any benefit to me.

6. I have been informed that, while information gained during the study may be published, I will not be identified and my personal results will not be divulged.

7. I understand that I am free to withdraw from the project at any time and that this will not directly or indirectly affect my academic results, now or in the future.

8. I am aware that I should retain a copy of this Consent Form, when completed, and the attached Information Sheet.

_____
(signature) *(date)*

WITNESS

I have described to _____ *(name of subject)*

the nature of the research to be carried out. In my opinion she/he understood the explanation.

Status in Project: Researcher

Name: Jess Scott

_____
(signature) *(date)*

This survey is absolutely confidential. You can return this page to me, or to Michelle, during IBP, and I will be in touch via email. Thank you for your time.

1) What is your name, email, your home country, and home town?
*Name (a nickname is fine):*_____
Uni email: _____*@adelaide.edu.au*
Country: _____
*Hometown:*_____

2) Which languages do you speak fluently?
Languages: _____

3) How long have you been in Australia? (Please circle):
1-3 months *3-9 months* *9-18 months* *Longer than 18 months*

4) What area are you studying in, and (briefly) what is your topic?
*Discipline or subdiscipline:*_____
*Topic:*_____

5) a. Have you previously studied in an English-medium university courses? (Please circle):
YES / NO

b. If *YES*, at what level? Please describe:_____

6) Have you spent much time in English-speaking countries? (Please circle):
This is my first trip *Small amounts of time (e.g. holidays)* *Yes, as an international or exchange student* *Other:*_____

7) <u>Before coming to Adelaide</u>, did you get much opportunity to listen and speak in English? (Please circle):
No *A little, e.g. during English class* *In a dialect form (e.g. 'Chinglish')* *Yes; I spoke English a lot* *Other:*_____

8) <u>Right now,</u> do you get much opportunity to listen and speak in English? (Please circle):
No *A little, e.g. supervision* *Sometimes, e.g. during labwork* *Quite a bit, e.g. chatting with friends* *Other:*_____

9) If you have IELTS, what were your most recent scores?
*Listening:*_____ *Reading:*_____ *Writing:* _____ *Speaking:*_____

10) How confident are you of your spoken English <u>right now</u>? (Please circle):
Not very confident; I avoid speaking in English where possible *A little; I make many mistakes, but people understand me* *Quite confident; I make mistakes, but there are no big problems* *Very confident; I feel I can express myself clearly*

11) How confident are you of your listening in English <u>right now</u>? (Please circle):
Not very confident; I can only understand when the person speaks carefully *A little; I miss about half the words, and it's difficult keeping up in conversations* *Quite confident; I miss words, but generally I understand* *Very confident; I can follow conversations very easily*

That's all for now! Thank you. - Jess

Appendix 5

Bridging course session outline

Week	Seminar	Workshop
1	Diagnostic Induction	Being supervised Managing your Candidature
2	Reading and conducting a literature search	Establishing a research context and focus Taking a critical approach to scholarship in the field
3	Appropriate citation and avoiding plagiarism	Visually representing your research Academic voice
4	Annotated bibliographies Reading and note-taking for researchers	Formulating a research questions/aims Formulating a hypothesis Introductions
5	Presenting a seminar in your discipline	Developing a literature review
6	Methods and methodology Tense in research writing	Preparing a research proposal
7	Pronunciation and intonation for researchers	Research genres
8	Readability in research documents	Cohesion and coherence/
9	Editing and self-editing in research writing	Corpora and concordancing
10	(consultations)	(presentation seminar)
11	(consultations)	(presentation seminar)
12	No session	Writing abstracts Post-course planning

LIBRARY NOTE:

The following pages 258-261 have been removed due to copyright.